

# STATISTICAL SUMMARY

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This annual report summarizes data on crude nonfuel mineral production<sup>1</sup> for the United States, its island possessions, and the Commonwealth of Puerto Rico.

Although crude mineral production may be measured at any of several stages of extraction and processing, the stage of measurement used in this annual report is what is termed “mine output.” This term refers to minerals or ores in the form in which they are first extracted from the ground, but customarily may include the output from auxiliary processing at or near the mines.

Because of inadequacies in the statistics available, some series deviate from the foregoing definition. For copper, gold, lead, silver, and zinc, the quantities listed are recorded on a mine basis (as the recoverable content of ore sold or treated). The values assigned to the quantities, however, are based on the average selling price of refined metal, not the mine value.

The total value of all nonfuel mineral production in the United States in 2004 increased to \$45.7 billion, which was a increase of more than 15% compared with that of 2003; metals increased to \$12.5 billion, which was a increase of 41%; and industrial minerals increased to \$33.2 billion, slightly more than 8%.

In 2004, the value of nonfuel mineral commodity production for the following nine commodities, in descending order of production value, was greater than \$1 billion: stone (crushed), cement (portland), sand and gravel (construction), copper, gold, iron ore (usable), molybdenum concentrates, lime, and salt. They accounted for more than 79% of the U.S. total production value (table 1).

In 2004, the value of nonfuel mineral commodity production in the following 17 States, in descending order of production value, was greater than \$1 billion: California, Nevada, Arizona, Florida, Texas, Utah, Minnesota, Georgia, Michigan, Missouri, Pennsylvania, Alaska, Ohio, New York, Illinois, Wyoming, and Colorado. They accounted for almost 70% of the U.S. total production value (table 3).

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<sup>1</sup>The terms “nonfuel mineral production” and related “values” encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2004 U.S. Geological Survey (USGS) mineral production data published in this chapter are as of May 2006. For some mineral commodities, such as construction sand and gravel, crushed stone, and portland cement, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Specialist contact information are available on the Internet at <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—are also available on the Internet at <http://minerals.usgs.gov/minerals>.

TABLE 1  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Metals:</b>						
Beryllium concentrates metric tons	1,970	NA	2,100	NA	2,210	NA
Copper <sup>3</sup>	1,140	1,910,000	1,120	2,100,000	1,160	3,420,000
Gold <sup>3</sup> kilograms	298,000	2,980,000	277,000	3,250,000	258,000	3,400,000
Iron ore, usable	51,500	1,340,000	46,100 <sup>r</sup>	1,490,000 <sup>r</sup>	54,900	2,080,000
Iron oxide pigments, crude metric tons	53,200	1,070	50,900	814	W	W
Lead <sup>3</sup> do.	440,000	423,000	449,000	433,000	430,000	523,000
Molybdenum concentrates <sup>4, 5</sup> do.	32,300	232,000	33,600	324,000	42,000	1,420,000
Palladium <sup>4</sup> kilograms	14,800	162,000	14,000	91,400	13,700	102,000
Platinum <sup>4</sup> do.	4,390	76,500	4,170	93,100	4,040	110,000
Rare-earth metal concentrates <sup>4</sup> metric tons	5,000 <sup>e</sup>	27,600 <sup>e</sup>	--	--	--	--
Silver <sup>3</sup> kilograms	1,420,000	211,000	1,240,000	196,000	1,250,000	268,000
Zinc <sup>3</sup> metric tons	780,000	664,000	738,000	661,000	715,000	827,000
Combined value of magnesium metal, titanium concentrates, zirconium concentrates, and value indicated by symbol W	XX	229,000	XX	233,000	XX	301,000
Total	XX	8,260,000	XX	8,860,000 <sup>r</sup>	XX	12,500,000
<b>Industrial minerals, excluding fuels:</b>						
Asbestos metric tons	2,720	1,380	--	--	--	--
Barite	420	12,200	468	13,900	532	18,700
Boron	1,050	513,000	1,150	591,000	1,210	626,000
Bromine metric tons	222,000	166,000	216,000	155,000	222,000	191,000
<b>Cement:</b>						
Masonry	4,450	480,000 <sup>e</sup>	4,740	468,000 <sup>e</sup>	5,000	585,000 <sup>e</sup>
Portland	85,300	6,350,000 <sup>e</sup>	88,100	6,460,000 <sup>e</sup>	92,400	7,110,000 <sup>e</sup>
<b>Clays:</b>						
Ball	1,120	47,000	1,310	56,200	1,220	54,100
Bentonite	3,970	180,000	3,940	177,000	4,060	179,000
Common	23,000	148,000	23,100	131,000	24,600	157,000
Fire	446	10,500	400	10,200	256	7,870
Fuller's earth	2,730	246,000	3,600	332,000	3,260	329,000
Kaolin	8,010	951,000	7,680	939,000	7,760	945,000
Diatomite	624	159,000	599 <sup>r</sup>	159,000 <sup>r</sup>	620	177,000
Feldspar	790	42,800	800	43,400	770	44,200
Garnet, industrial metric tons	38,500	4,500	29,200	3,170	28,400	3,050
Gemstones, natural	NA	12,600	NA	12,500	NA	14,500
Gypsum, crude	15,700	108,000	16,700	114,000	17,200	124,000
<b>Helium:</b>						
Crude million cubic meters	50	63,600	49	67,000	57	77,500
Grade-A do.	127	293,000	122	282,000	130	299,000
Iodine metric tons	1,420	21,600	1,090	15,900	W	W
Kyanite <sup>e</sup>	90	13,400	90	13,400	90	13,400
Lime	17,900	1,120,000	W	W	20,000	1,370,000
Mica, crude	81	7,340	79	16,700	99,200	15,400
Peat	728	21,000	632	18,800	741,000	21,200
Perlite, crude metric tons	521,000	19,000	493,000	18,800	508,000	20,600
Phosphate rock, marketable	36,100	993,000	35,000	946,000	35,800	995,000
Potash	2,600	280,000	2,500	280,000	2,700	340,000
Pumice and pumicite metric tons	950,000	22,900	870,000	21,900	1,490,000	25,000
Salt	37,700	1,010,000	41,100	1,130,000	45,000	1,270,000
<b>Sand and gravel:</b>						
Construction	1,130,000	5,750,000	1,160,000	5,990,000	1,240,000	6,590,000
Industrial	27,200	572,000	27,500	609,000	29,700	685,000
Silica stone <sup>6</sup> metric tons	386	3,740	513	3,630	655	3,660
Soda ash	10,500	784,000	10,600	765,000	11,000	770,000

See footnotes at end of table.

TABLE 1—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Industrial minerals—Continued</b>						
Stone, crushed <sup>7</sup>	1,510,000	8,650,000	1,530,000	9,060,000 <sup>r</sup>	1,590,000	9,590,000
Tripoli metric tons	66,600	16,600	68,800	17,700	94,000	19,400
Zeolites do.	(8)	NA	(8)	NA	W	W
Combined value of brucite, emery (2002), greensand marl, lithium carbonate, magnesite, magnesium compounds, olivine, pyrophyllite (crude), staurolite, stone (dimension), talc (crude), vermiculite (crude), wollastonite, and values indicated by symbol W	XX	523,000	XX	1,800,000	XX	531,000
Total	XX	29,600,000	XX	30,700,000 <sup>r</sup>	XX	33,200,000
Grand total	XX	37,900,000	XX	39,600,000 <sup>r</sup>	XX	45,700,000

<sup>c</sup>Estimated. <sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value."

XX Not applicable. -- Zero.

<sup>1</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>3</sup>Recoverable content of ores, etc.

<sup>4</sup>Content of ore and concentrate.

<sup>5</sup>Shipments.

<sup>6</sup>Includes grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

<sup>7</sup>Excludes abrasive stone and bituminous limestone and sandstone; all included elsewhere in table.

<sup>8</sup>Withheld to avoid disclosing company proprietary data.

TABLE 2  
NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2004

(Principal States based on quantity unless otherwise noted)

Mineral	Principal States	Other States (alphabetical order)
Barite	NV and GA	
Beryllium concentrates	UT	
Boron	CA	
Bromine	AR and MI	
Brucite	NV and TX	
Cement:		
Masonry	FL, CA, SC, IN, AL	AZ, AR, CO, GA, IA, KS, KY, ME, MD, MI, MO, NE, NM, NY, OH, OK, PA, TN, TX, VA, WV.
Portland	CA, TX, PA, MI, MO	All other States, except AK, CT, DE, HI, LA, MA, MN, NH, NJ, NC, ND, RI, VT.
Clays:		
Ball	TN, TX, MS, KY, IN	
Bentonite	WY, MS, MT, AL, UT	AZ, CA, CO, NV, OR, TX, VA.
Common	NC, TX, AL, GA, OH	All other States, except AK, DE, HI, ID, NV, NH, RI, VT, WI.
Fire	MO, OH, SC	
Fuller's earth	GA, MO, MS, VA, FL	CA, IL, KS, NV, TN, TX.
Kaolin	GA, AL, SC, AR, TX	CA, FL, NV, NC, TN.
Copper <sup>1</sup>	AZ, UT, NM, MT, NV	ID and MO.
Diatomite	CA, NV, OR, WA	
Feldspar	NC, VA, CA, OK, GA	ID and SD.
Garnet, industrial	NY and ID	
Gemstones, natural <sup>2</sup>	TN, AZ, OR, CA, ID	All other States.
Gold <sup>1</sup>	NV, AK, UT, CO, CA	AZ, MT, NM, SD, WA.
Greensand marl	NJ	
Gypsum, crude	OK, TX, NV, IA, CA	AZ, AR, CO, IN, KS, LA, MI, NM, SD, UT, WY.
Helium:		
Crude	KS and TX	
Grade-A	KS, WY, OK, OH, UT	NM and TX.
Iodine, crude	OK	
Iron ore, usable	MN, MI, CA	
Iron oxide pigments, crude	GA, MI, AL, VA	
Kyanite	VA	
Lead <sup>1</sup>	MO, AK, ID, WA, MT	
Lime	MO, KY, AL, OH, TX	All other States, except AK, CT, DE, HI, KS, ME, MD, MS, NH, NJ, NY, NC, RI, SC, VT.
Lithium carbonate	NV	
Magnesite	NV	
Magnesium compounds	MI, FL, UT, DE, CA	
Magnesium metal	UT	
Mica, crude	NC, NM, GA, SD, SC	
Molybdenum, concentrates	AZ, CO, UT, ID, MT	NM.
Olivine	WA and NC	
Palladium <sup>1</sup>	MT	
Peat	FL, MI, MN, IL, PA	IN, IA, ME, MT, NJ, NY, OH, WA, WV, WI.
Perlite, crude	NM, OR, AZ, UT, CA	ID and NV.
Phosphate rock	FL, ID, NC, UT	
Platinum <sup>1</sup>	MT	
Potash	NM, UT, MI	
Pumice and pumicite	OR, AZ, ID, NM, CA	KS.
Pyrophyllite, crude	NC	
Salt	LA, TX, NY, OH, KS	AL, AZ, CA, MI, NV, NM, OK, TN, UT, WV.
Sand and gravel:		
Construction	CA, TX, AZ, MI, MN	All other States.
Industrial	IL, TX, WI, NJ, CA	All other States, except AK, CT, DE, HI, KY, ME, MA, MT, NH, NM, OR, SD, UT, VT, WY.
Silica stone <sup>3</sup>	AR	
Silver <sup>1</sup>	AK, NV, ID, UT, MT	AZ, CA, CO, MO, NM, WA.
Soda ash	WY, CA, CO	
Staurolite	FL	

See footnotes at end of table.

TABLE 2—Continued  
NONFUEL MINERALS PRODUCED IN THE UNITED STATES, BY COMMODITY AND STATES IN 2004

(Principal States based upon quantity unless otherwise noted)

Mineral	Principal States	Other States (alphabetical order)
Stone:		
Crushed	TX, PA, FL, GA, IL	All other States, except DE.
Dimension	IN, WI, GA, VT, MA	All other States, except AK, DE, FL, HI, IL, IA, KY, LA, MS, NE, NV, NJ, ND, OR, RI, WY.
Talc, crude	MT, TX, VT, NY, CA	OR.
Titanium concentrates:		
Ilmenite	FL, VA, GA	
Rutile	FL	
Tripoli	IL, OK, AR, PA	
Vermiculite, crude	SC and VA	
Wollastonite	NY	
Zeolites	NM, ID, TX, AZ, NV	WY and CA.
Zinc <sup>1</sup>	AK, MO, WA, MT, TN	ID.
Zirconium concentrates	FL, VA, GA	

<sup>1</sup>Content of ores, etc.

<sup>2</sup>Principal producing States based on value.

<sup>3</sup>Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

TABLE 3  
VALUE OF NONFUEL MINERAL PRODUCTION IN THE UNITED STATES AND PRINCIPAL NONFUEL MINERALS PRODUCED IN 2004<sup>1</sup>

State	Value (thousands)	Rank	Percentage of U.S. total	Principal minerals, in order of value
Alabama	\$972,000	18	2.13	Cement (portland), stone (crushed), lime, sand and gravel (construction), cement (masonry).
Alaska	1,270,000	12	2.78	Zinc, lead, gold, silver, sand and gravel (construction).
Arizona	3,330,000	3	7.30	Copper, sand and gravel (construction), molybdenum concentrates, cement (portland), stone (crushed).
Arkansas	518,000	29	1.13	Bromine, stone (crushed), cement (portland), sand and gravel (construction), lime.
California	3,760,000	1	8.23	Sand and gravel (construction), cement (portland), boron minerals, stone (crushed), diatomite.
Colorado	1,010,000	17	2.21	Molybdenum concentrates, sand and gravel (construction), cement (portland), gold, stone (crushed).
Connecticut <sup>2</sup>	131,000	42	0.29	Stone (crushed), sand and gravel (construction), stone (dimension), clays (common), gemstones (natural).
Delaware <sup>2</sup>	21,900	50	0.05	Sand and gravel (construction), magnesium compounds, gemstones (natural).
Florida	2,320,000	4	5.08	Phosphate rock, stone (crushed), cement (portland), sand and gravel (construction), cement (masonry).
Georgia	1,800,000	8	3.95	Clays (kaolin), stone (crushed), clays (fuller's earth), cement (portland), sand and gravel (construction).
Hawaii	71,200	46	0.16	Stone (crushed), sand and gravel (construction), gemstones (natural).
Idaho	446,000	34	0.98	Molybdenum concentrates, phosphate rock, sand and gravel (construction), silver, cement (portland).
Illinois	1,050,000	15	2.31	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), lime.
Indiana	764,000	22	1.67	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Iowa	529,000	28	1.16	Stone (crushed), cement (portland), sand and gravel (construction), gypsum (crude), lime.
Kansas	754,000	23	1.65	Cement (portland), helium (Grade-A), salt, stone (crushed), helium (crude).
Kentucky	648,000	25	1.42	Stone (crushed), lime, cement (portland), sand and gravel (construction), clays (ball).
Louisiana	356,000	36	0.78	Salt, sand and gravel (construction), stone (crushed), sand and gravel (industrial), clays (common).
Maine	118,000	43	0.26	Sand and gravel (construction), cement (portland), stone (crushed), stone (dimension), cement (masonry).
Maryland	481,000	32	1.05	Stone (crushed), cement (portland), sand and gravel (construction), stone (dimension), cement (masonry).
Massachusetts <sup>2</sup>	210,000	38	0.46	Stone (crushed), sand and gravel (construction), lime, stone (dimension), clays (common).
Michigan	1,670,000	9	3.66	Iron ore (usable), cement (portland), sand and gravel (construction), salt, stone (crushed).
Minnesota <sup>2</sup>	1,890,000	7	4.13	Iron ore (usable), sand and gravel (construction), stone (crushed), sand and gravel (industrial), stone (crushed).
Mississippi	194,000	40	0.43	Sand and gravel (construction), clays (fuller's earth), stone (crushed), cement (portland), clays (bentonite).
Missouri	1,470,000	10	3.23	Stone (crushed), cement (portland), lead, lime, sand and gravel (construction).
Montana	624,000	26	1.37	Platinum metal, palladium metal, copper, molybdenum concentrates, sand and gravel (construction).
Nebraska <sup>2</sup>	106,000	44	0.23	Cement (portland), sand and gravel (construction), stone (crushed), cement (masonry), lime.
Nevada	3,470,000	2	7.60	Gold, sand and gravel (construction), lime, stone (crushed), silver.
New Hampshire <sup>2</sup>	70,600	47	0.16	Sand and gravel (construction), stone (crushed), stone (dimension), gemstones (natural).
New Jersey <sup>2</sup>	341,000	37	0.75	Stone (crushed), sand and gravel (construction), sand and gravel (industrial), greensand marl, peat.
New Mexico	866,000	20	1.90	Copper, potash, sand and gravel (construction), molybdenum (concentrates), cement (portland).
New York	1,110,000	14	2.43	Stone (crushed), salt, cement (portland), sand and gravel (construction), wollastonite.
North Carolina	805,000	21	1.76	Stone (crushed), phosphate rock, sand and gravel (construction), sand and gravel (industrial), feldspar.
North Dakota	44,500	48	0.10	Sand and gravel (construction), lime, stone (crushed), clays (common), sand and gravel (industrial).
Ohio	1,120,000	13	2.45	Stone (crushed), sand and gravel (construction), salt, lime, cement (portland).
Oklahoma	507,000	31	1.11	Stone (crushed), cement (portland), sand and gravel (construction), sand and gravel (industrial), gypsum (crude).
Oregon	367,000	35	0.80	Stone (crushed), sand and gravel (construction), cement (portland), diatomite, lime.
Pennsylvania	1,400,000	11	3.08	Stone (crushed), cement (portland), sand and gravel (construction), lime, cement (masonry).
Rhode Island <sup>2</sup>	34,400	49	0.08	Sand and gravel (construction), stone (crushed), sand and gravel (industrial), gemstones (natural).
South Carolina <sup>2</sup>	532,000	27	1.17	Stone (crushed), cement (portland), cement (masonry), sand and gravel (construction), clays (kaolin).
South Dakota	210,000	39	0.46	Cement (portland), sand and gravel (construction), gold, stone (crushed), stone (dimension).
Tennessee	653,000	24	1.43	Stone (crushed), cement (portland), sand and gravel (construction), clays (ball), sand and gravel (industrial).
Texas	2,290,000	5	5.01	Cement (portland), stone (crushed), sand and gravel (construction), salt, lime.
Utah	1,940,000	6	4.26	Copper, molybdenum (concentrates), cement (portland), gold, sand and gravel (construction).
Vermont <sup>2</sup>	85,400	45	0.19	Stone (crushed), stone (dimension), sand and gravel (construction), talc (crude), gemstones (natural).
Virginia	894,000	19	1.96	Stone (crushed), cement (portland), sand and gravel (construction), lime, zirconium (concentrates).
Washington	507,000	30	1.11	Sand and gravel (construction), cement (portland), stone (crushed), gold, zinc.
West Virginia	167,000	41	0.37	Stone (crushed), cement (portland), sand and gravel (industrial), lime, cement (masonry).
Wisconsin <sup>2</sup>	470,000	33	1.03	Sand and gravel (construction), stone (crushed), lime, sand and gravel (industrial), stone (dimension).
Wyoming	1,040,000	16	2.29	Soda ash, clays (bentonite), helium (Grade-A), cement (portland), sand and gravel (construction).
Undistributed	197,000	XX	0.43	
Total	45,700,000	XX	100.00	

XX Not applicable.

<sup>1</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>2</sup>Partial total; excludes values that must be withheld to avoid disclosing company proprietary data which are values included with "Undistributed."

TABLE 4  
VALUE OF NONFUEL MINERAL PRODUCTION PER CAPITA AND PER SQUARE KILOMETER IN 2004 BY STATE<sup>1</sup>

State	Area (square kilometers)	Population (thousands)	Total value (thousands)	Per capita		Per square kilometer	
				Dollars	Rank	Dollars	Rank
Alabama	134,000	4,560	\$972,000	\$213	14	\$7,260	20
Alaska	1,530,000	664	1,270,000	1,910	2	828	48
Arizona	295,000	5,940	3,330,000	561	6	11,300	7
Arkansas	138,000	2,780	518,000	186	16	3,760	29
California	411,000	36,100	3,760,000	104	28	9,140	13
Colorado	270,000	4,670	1,010,000	217	13	3,750	30
Connecticut	13,000	3,510	131,000 <sup>2</sup>	37	47	10,100	11
Delaware	5,290	844	21,900 <sup>2</sup>	26	50	4,140	27
Florida	152,000	17,800	2,320,000	130	22	15,300	3
Georgia	153,000	9,070	1,800,000	199	15	11,800	6
Hawaii	16,800	1,280	71,200	56	44	4,250	26
Idaho	216,000	1,430	446,000	312	9	2,060	42
Illinois	146,000	12,800	1,050,000	83	37	7,220	21
Indiana	93,700	6,270	764,000	122	24	8,160	18
Iowa	146,000	2,970	529,000	178	17	3,630	31
Kansas	213,000	2,740	754,000	275	10	3,540	32
Kentucky	105,000	4,170	648,000	155	19	6,190	23
Louisiana	124,000	4,520	356,000	79	38	2,880	36
Maine	86,200	1,320	118,000	89	34	1,370	46
Maryland	27,100	5,600	481,000	86	35	17,800	1
Massachusetts	21,500	6,400	210,000 <sup>2</sup>	33	48	9,800	12
Michigan	152,000	10,100	1,670,000	165	18	11,000	8
Minnesota	219,000	5,130	1,890,000 <sup>2</sup>	367	8	8,630	16
Mississippi	124,000	2,920	194,000	67	41	1,570	44
Missouri	181,000	5,800	1,470,000	254	12	8,170	19
Montana	381,000	936	624,000	667	5	1,640	43
Nebraska	200,000	1,760	106,000 <sup>2</sup>	60	42	529	49
Nevada	286,000	2,410	3,470,000	1,440	3	12,100	4
New Hampshire	24,000	1,310	70,600 <sup>2</sup>	54	45	2,940	37
New Jersey	20,200	8,720	341,000 <sup>2</sup>	39	46	16,900	2
New Mexico	315,000	1,930	866,000	449	7	2,750	40
New York	127,000	19,300	1,110,000	58	43	8,730	15
North Carolina	136,000	8,680	805,000	93	32	5,900	25
North Dakota	183,000	637	44,500	70	40	243	50
Ohio	107,000	11,500	1,120,000	97	31	10,400	10
Oklahoma	181,000	3,550	507,000	143	20	2,800	39
Oregon	251,000	3,640	367,000	101	29	1,460	45
Pennsylvania	117,000	12,400	1,400,000	113	26	12,000	5
Rhode Island	3,140	1,080	34,400 <sup>2</sup>	32	49	11,000	9
South Carolina	80,600	4,260	532,000 <sup>2</sup>	125	23	6,610	22
South Dakota	200,000	776	210,000	271	11	1,050	47
Tennessee	109,000	5,960	653,000	109	27	5,980	24
Texas	691,000	22,900	2,290,000	100	30	3,310	34
Utah	220,000	2,470	1,940,000	788	4	8,840	14
Vermont	24,900	623	85,400 <sup>2</sup>	137	21	3,430	33
Virginia	106,000	7,570	894,000	118	25	8,470	17
Washington	176,000	6,290	507,000	81	39	2,870	38
West Virginia	62,800	1,820	167,000	92	33	2,660	41
Wisconsin	145,000	5,540	470,000 <sup>2</sup>	85	36	3,230	35
Wyoming	253,000	509	1,040,000	2,050	1	4,120	28
Undistributed	XX	XX	197,000	XX	XX	XX	XX
Total or average	9,370,000 <sup>3</sup>	296,000 <sup>3</sup>	45,700,000	154	XX	4,870	XX

XX Not applicable.

<sup>1</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>2</sup>Partial total; excludes values that must be withheld to avoid disclosing company proprietary data, which are included with "Undistributed."

<sup>3</sup>Excludes Washington, DC (which has no mineral production), with an area of 179 square kilometers and a population of 551,000.

Sources: U.S. Geological Survey and U.S. Census Bureau.

TABLE 5  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Alabama:</b>						
<b>Cement:</b>						
Masonry	380	42,000 <sup>e</sup>	565	55,700 <sup>e</sup>	430	49,400 <sup>e</sup>
Portland	4,540	298,000 <sup>e</sup>	4,330	273,000 <sup>e</sup>	4,800	320,000 <sup>e</sup>
<b>Clays:</b>						
Bentonite	125	3,810	125	3,810	100	3,050
Common	2,020	24,600	1,920	24,000	2,120	29,600
Kaolin	531	14,600	W	W	W	W
Gemstones	NA	356	NA	356	NA	356
Lime	2,040	127,000	2,290	151,000	2,280	164,000
<b>Sand and gravel:</b>						
Construction	12,500	56,700	14,500	67,600	14,700	65,300
Industrial	722	8,990	723	9,180	643	9,800
Stone, crushed	43,400	257,000 <sup>r</sup>	49,300	286,000	49,100	303,000
Combined values of iron oxide pigments (crude), salt, stone (dimension marble and sandstone), and values indicated by symbol W	XX	8,850	XX	30,000	XX	27,000
Total	XX	843,000 <sup>r</sup>	XX	900,000	XX	972,000
<b>Alaska:</b>						
Gemstones	NA	12	NA	12	NA	12
Gold <sup>3</sup> kilograms	16,900	170,000	W	W	W	W
Sand and gravel, construction	16,300	93,400	9,980	55,700	9,430	51,600
Silver <sup>3</sup> kilograms	559,000	83,100	W	W	W	W
Stone, crushed <sup>4</sup>	2,810 <sup>r</sup>	15,200 <sup>r</sup>	2,640	15,300	2,230	13,900
Combined values of lead, stone [crushed dolomite, granite, limestone, shell (2002), crushed granite and shell (2003-04)], zinc, and values indicated by symbol W	XX	695,000 <sup>r</sup>	XX	1,010,000	XX	1,200,000
Total	XX	1,060,000 <sup>r</sup>	XX	1,080,000	XX	1,270,000
<b>Arizona:</b>						
Copper <sup>5</sup>	767	1,280,000	741	1,390,000	723	2,130,000
Gemstones	NA	1,670	NA	1,440	NA	1,450
<b>Sand and gravel:</b>						
Construction	53,800	294,000	62,600	340,000	79,600	430,000
Industrial	W	W	W	W	W	792
Stone, crushed	8,450	51,500 <sup>r</sup>	9,950	49,100	11,100	57,200
Combined values of cement, clays (bentonite, common), gold, gypsum (crude), lime, mica (2002), molybdenum concentrates, perlite (crude), pumice and pumicite, salt, silver, stone (dimension sandstone), zeolites (2004), and values indicated by symbol W	XX	318,000	XX	394,000	XX	709,000
Total	XX	1,950,000 <sup>r</sup>	XX	2,180,000	XX	3,330,000
<b>Arkansas:</b>						
Clays, common	922	2,280	897	1,410	1,150	1,510
Gemstones	NA	637	NA	477	NA	590
Sand and gravel, construction	8,810	45,600	9,720	52,100	9,370	53,500
Silica stone <sup>3</sup> metric tons	386	3,740	513	3,630	655	3,660
Stone, crushed	30,600 <sup>r</sup>	158,000 <sup>r</sup>	29,700 <sup>r</sup>	145,000 <sup>r</sup>	32,900	161,000
Combined values of bromine, cement, clays (kaolin), gypsum (crude), lime, sand and gravel (industrial), stone (dimension limestone and sandstone), tripoli	XX	247,000	XX	251,658	XX	298,000
Total	XX	457,000 <sup>r</sup>	XX	454,000 <sup>r</sup>	XX	518,000
<b>California:</b>						
Asbestos metric tons	2,770	1,380	--	--	--	--
Boron minerals	1,050	513,000	1,150	591,000	1,210	626,000
Cement, portland	11,200	853,000 <sup>e</sup>	11,600	887,000 <sup>e</sup>	11,900	1,000,000 <sup>e</sup>

See footnotes at end of table.



TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>California—Continued:</b>						
Clays:						
Bentonite	26	2,830	23	2,560	24	2,640
Common	1,030	21,400	1,240	19,100	1,230	20,700
Fuller's earth	W	W	W	W	197	W
Gemstones	NA	1,040	NA	1,080	NA	1,070
Gold <sup>3</sup> kilograms	9,180	91,900	4,270	50,100	3,260	43,000
Sand and gravel:						
Construction	151,000	1,110,000	152,000	1,150,000	166,000	1,280,000
Industrial	1,800	48,000	1,790	50,100	1,990	55,700
Silver <sup>3</sup> kilograms	3,400	506	957	151	801	172
Stone:						
Crushed	67,400	423,000	55,500	371,000 <sup>r</sup>	55,400	365,000
Dimension	41	9,870	40	9,920	42	10,200
Combined values of cement (masonry), clays [fire (2002), kaolin], diatomite, feldspar, gypsum (crude), iron ore (usable), lime, magnesium compounds, perlite (crude), pumice and pumicite, pyrophyllite [crude (2003)], rare-earth metal concentrates (2002), salt, soda ash, talc (crude), zeolites (2004), and values indicated by symbol W	XX	340,000 <sup>r</sup>	XX	308,000	XX	349,000
Total	XX	3,410,000 <sup>r</sup>	XX	3,440,000 <sup>r</sup>	XX	3,760,000
<b>Colorado:</b>						
Clays:						
Bentonite	W	W	W	W	5	W
Common	214	1,260	259	1,580	249	1,510
Gemstones	NA	269	NA	281	NA	360
Lime	20	1,250	26	2,330	26	2,570
Sand and gravel:						
Construction	40,700	222,000	37,500	213,000	40,900	235,000
Industrial	61	W	70	W	W	3,300
Stone:						
Crushed	15,000	96,000	10,400	64,000 <sup>r</sup>	11,000	67,300
Dimension	18	2,400	5	1,610	16	1,980
Combined values of cement, gold, gypsum (crude), helium (Grade-A), molybdenum concentrates, silver, soda ash, and values indicated by symbol W	XX	312,000 <sup>r</sup>	XX	391,000	XX	699,000
Total	XX	634,000 <sup>r</sup>	XX	673,000	XX	1,010,000
<b>Connecticut:</b>						
Clays, common						
	55	183	52	143	87	(6)
Gemstones	NA	6	NA	6	NA	6
Sand and gravel, construction	8,140	48,800	8,150	51,200	8,330	55,600
Stone:						
Crushed	10,200	76,500 <sup>r</sup>	10,400	81,800	10,000	75,700
Dimension	W	(6)	W	(6)	W	(6)
Total	XX	125,000 <sup>r</sup>	XX	133,000	XX	131,000
<b>Delaware:</b>						
Gemstones	NA	1	NA	1	NA	1
Magnesium compounds metric tons	W	(6)	W	(6)	W	(6)
Sand and gravel, construction	2,190	17,300	2,550	17,900	2,980	21,900
Total	XX	17,300	XX	17,900	XX	21,900
<b>Florida:</b>						
Cement:						
Masonry	591	64,000 <sup>c</sup>	674	82,900 <sup>c</sup>	763	97,600 <sup>c</sup>
Portland	3,950	297,000 <sup>c</sup>	4,190	323,000 <sup>c</sup>	5,230	432,000 <sup>c</sup>

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
Florida—Continued:						
Clays:						
Common	W	W	94 <sup>e</sup>	1,280 <sup>e</sup>	W	W
Fuller's earth	W	W	W	W	234	W
Kaolin	32	3,370	31	3,250	31	3,280
Gemstones	NA	1	NA	1	NA	1
Lime	--	--	--	--	24	2,090
Peat	559	11,500	373	7,440	478	9,710
Sand and gravel:						
Construction	26,400	114,000	30,900	141,000	29,300	146,000
Industrial	645	8,640	624	7,270	679	8,520
Stone, crushed	97,700	573,000	97,100 <sup>r</sup>	587,000 <sup>r</sup>	105,000	675,000
Combined values of magnesium compounds, phosphate rock, stauroilite, titanium concentrates, zirconium concentrates, and values indicated by symbol W	XX	963,000	XX	918,000	XX	945,000
Total	XX	2,030,000	XX	2,070,000	XX	2,320,000
Georgia:						
Clays:						
Common	1,310	5,500	1,280	4,430	1,550	8,710
Fuller's earth	979	93,800	1,570	145,000	1,400	142,000
Kaolin	6,830	893,000	6,610	884,000	6,780	898,000
Gemstones	NA	8	NA	8	NA	9
Sand and gravel:						
Construction	6,600	27,200	7,690	31,800	9,270	39,400
Industrial	606	12,200	590	11,900	665	13,400
Stone:						
Crushed	70,500 <sup>r</sup>	461,000 <sup>r</sup>	75,200	519,000	79,500	544,000
Dimension	111	18,200	114	22,700	146	22,100
Combined values of barite, cement, clays [bentonite (2002)], feldspar, iron oxide pigments (crude), lime, mica (crude)	XX	129,000 <sup>r</sup>	XX	117,000	XX	134,000
Total	XX	1,640,000 <sup>r</sup>	XX	1,740,000	XX	1,800,000
Hawaii:						
Cement, masonry	W	(3)	W	(3)	--	--
Gemstones	NA	109	NA	119	NA	262
Sand and gravel, construction	610	7,010	808 <sup>r</sup>	9,560	1,260	12,100
Stone, crushed	6,380	65,100	5,620 <sup>r</sup>	65,400 <sup>r</sup>	5,190	58,900
Total	XX	72,300	XX	75,100 <sup>r</sup>	XX	71,200
Idaho:						
Gemstones	NA	460	NA	477	NA	836
Sand and gravel, construction	15,700	57,700	16,500	59,300	19,600	74,300
Stone, crushed	3,420	15,800	3,160	15,700	3,320	17,400
Combined values of cement (portland), copper, feldspar, garnet (industrial), gold (2002-03), lead, lime, molybdenum concentrates, perlite (crude), phosphate rock, pumice and pumicite, sand and gravel (industrial), silver, stone [dimension granite, quartz, sandstone (2002), dimension quartzite and sandstone (2003-04), zeolites (2004), zinc	XX	197,000	XX	193,000	XX	354,000
Total	XX	271,000	XX	269,000	XX	446,000
Illinois:						
Cement, portland	2,770	204,000 <sup>e</sup>	2,930	210,000 <sup>e</sup>	3,010	233,000 <sup>e</sup>
Clays:						
Common	181	856	179	1,010	247	1,390
Fuller's earth	W	W	W	W	218	W
Gemstones	NA	28	NA	28	NA	70

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Florida—Continued:</b>						
Sand and gravel:						
Construction	32,000	146,000	34,600	161,000	38,700	203,000
Industrial	4,510	72,800	4,440	72,600	4,950	86,200
Stone, crushed <sup>4</sup>	75,200	431,000	76,000	453,000	76,500	465,000
Combined values of lime, peat, stone (crushed sandstone), tripoli, and values indicated by symbol W	XX	62,100	XX	74,000	XX	65,400
Total	XX	917,000	XX	971,000	XX	1,050,000
<b>Indiana:</b>						
Cement, portland	2,940	197,000 <sup>e</sup>	2,930	203,000 <sup>e</sup>	3,080	218,000 <sup>e</sup>
Clays, common	429 <sup>r</sup>	1,240 <sup>r</sup>	385	767	729	1,890
Gemstones	NA	4	NA	4	NA	4
Sand and gravel, construction	27,600	122,000	32,900	129,000	28,300	116,000
Stone:						
Crushed	55,500	268,000	50,500	237,000 <sup>r</sup>	56,800	253,000
Dimension	237	39,500	242	42,100	251	45,500
Combined values of cement (masonry), clays (ball), gypsum (crude), lime, peat, sand and gravel (industrial)	XX	104,000	XX	104,000	XX	130,000
Total	XX	733,000 <sup>r</sup>	XX	716,000 <sup>r</sup>	XX	764,000
<b>Iowa:</b>						
Clays, common	256	763	256	763	325	1,150
Gemstones	NA	2	NA	2	NA	2
Sand and gravel, construction	14,600	62,300	13,400	61,000	17,100	74,300
Stone, crushed	35,900	194,000	35,600	207,000	36,800	215,000
Combined values of cement, gypsum (crude), lime, peat, sand and gravel (industrial)	XX	231,000	XX	235,000	XX	239,000
Total	XX	488,000	XX	504,000	XX	529,000
<b>Kansas:</b>						
Cement, portland	2,350	181,000 <sup>e</sup>	2,270	173,000 <sup>e</sup>	2,690	212,000 <sup>e</sup>
Clays, common	642	4,280	632	10,000	621	7,460
Gemstones	NA	1	NA	1	NA	1
Helium, Grade-A million cubic meters	78	181,000	77	179,000	82	189,000
Salt	2,630	119,000	2,770	123,000	2,890	127,000
Sand and gravel, construction	9,560	28,700	10,700	34,900	9,930	32,800
Stone:						
Crushed	21,300 <sup>r</sup>	106,000 <sup>r</sup>	20,700 <sup>r</sup>	111,000	19,800	109,000
Dimension	15	1,900	15	1,640	14	1,730
Combined values of cement (masonry), clays (fuller's earth), gypsum (crude), helium (crude), pumice and pumicite, sand and gravel (industrial)	XX	64,800	XX	65,100	XX	75,300
Total	XX	687,000 <sup>r</sup>	XX	696,000	XX	754,000
<b>Kentucky:</b>						
Clays, common	925	4,740	983	3,770	978	4,510
Gemstones	NA	64	NA	22	NA	22
Sand and gravel, construction	9,530	37,900	10,000	46,500	10,300	49,700
Stone, crushed	50,600	302,000	52,400	326,000	55,600	347,000
Combined values of cement, clays (ball), lime	XX	197,000	XX	220,000	XX	246,000
Total	XX	542,000	XX	597,000	XX	648,000
<b>Louisiana:</b>						
Clays, common	667	1,680	670	1,690	399	1,000
Gemstones	NA	6	NA	6	NA	6
Salt	12,000	129,000	12,600	152,000	14,300	186,000
Sand and gravel:						
Construction	17,900	96,800	21,200	105,000	19,400	103,000
Industrial	541	12,000	499	17,200	476	14,800

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Louisiana—Continued:</b>						
Combined values of gypsum (crude), lime, stone (crushed limestone, sandstone, miscellaneous)	XX	72,400	XX	91,000	XX	51,200
Total	XX	312,000	XX	367,000	XX	356,000
<b>Maine:</b>						
Clays, common	49 <sup>e</sup>	125 <sup>e</sup>	49 <sup>e</sup>	125 <sup>e</sup>	49	W
Gemstones	NA	257	NA	262	NA	268
Sand and gravel, construction	9,680	40,400	10,400	47,600	10,800	49,100
Stone, crushed	4,010	23,400	3,530	22,500	4,370	29,500
Combined values of cement, peat, stone (dimension granite), and values indicated by symbol W	XX	35,400	XX	36,700	XX	39,300
Total	XX	99,700	XX	107,000	XX	118,000
<b>Maryland:</b>						
Cement, portland	1,880	140,000 <sup>e</sup>	2,200	147,000 <sup>e</sup>	2,520	175,000 <sup>e</sup>
Clays, common	268	550	269	550	262	571
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	12,200	83,500	11,800	79,900	12,700	75,500
<b>Stone:</b>						
Crushed <sup>4</sup>	22,300	141,000	26,200	165,000	29,900	185,000
Dimension	21	2,120	24	2,700	27	9,580
Combined values of cement (masonry), sand and gravel (industrial), stone (crushed marble, shell, traprock)	XX	33,500	XX	31,700	XX	35,400
Total	XX	400,000	XX	427,000	XX	481,000
<b>Massachusetts:</b>						
Clays, common	36	321	36	321	36	(6)
Gemstones	NA	1	NA	1	NA	1
Lime	W	(6)	W	(6)	W	(6)
Sand and gravel, construction	12,200	75,300	12,900	80,800	14,400	90,000
<b>Stone:</b>						
Crushed	13,800	111,000 <sup>r</sup>	13,000	111,000	13,600	109,000
Dimension	81	11,300	81	11,300	82	11,600
Total	XX	198,000	XX	204,000	XX	210,000
<b>Michigan:</b>						
Cement, masonry	292	30,000 <sup>e</sup>	237	24,300 <sup>e</sup>	231	27,100 <sup>e</sup>
Clays, common	499	884	588	3,050	605	3,070
Gemstones	NA	1	NA	1	NA	1
Gypsum, crude	1,020	10,800	500	6,130	452	5,660
Peat	131	3,790	125	3,460	122	3,360
<b>Sand and gravel:</b>						
Construction	77,300	267,000	71,000	253,000	69,500	254,000
Industrial	2,210	31,000	2,130	31,400	1,690	25,200
Stone, crushed <sup>4</sup>	41,100	171,000 <sup>r</sup>	33,600	123,000 <sup>r</sup>	35,800	140,000
Combined values of bromine, cement (portland), iron ore (usable), iron oxide pigments (crude), lime, magnesium compounds, potash, salt, stone (crushed marl and miscellaneous, dimension dolomite and sandstone)	XX	962,000	XX	1,140,000 <sup>r</sup>	XX	1,210,000
Total	XX	1,480,000 <sup>r</sup>	XX	1,580,000 <sup>r</sup>	XX	1,670,000
<b>Minnesota:</b>						
Clays, common	14	15	20	22	20	22
Gemstones	NA	6	NA	6	NA	6
Iron ore, usable	39,600	1,050,000	34,000 <sup>r</sup>	1,030,000 <sup>r</sup>	41,400	1,560,000
Lime	W	(6)	W	(6)	W	(6)
Peat	64	5,320	60	5,070	63	5,210

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Minnesota—Continued:</b>						
Sand and gravel:						
Construction	43,700	175,000	48,900	212,000	54,900	235,000
Industrial	W	(6)	W	(6)	W	(6)
Stone:						
Crushed	9,960	57,600	9,880	61,800	10,900	68,300
Dimension	22	12,400	16	11,900	22	12,400
Total	XX	1,300,000	XX	1,320,000 <sup>r</sup>	XX	1,890,000
<b>Mississippi:</b>						
Clays:						
Common	496	2,210	524	2,050	610	2,700
Fuller's earth	411	29,900	534	42,700	381	35,200
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	13,600	73,200	14,600	82,600	14,100	80,700
Stone, crushed	2,620	27,900	2,850	33,900	2,760	34,200
Combined values of cement (portland), clays (ball, bentonite), sand and gravel (industrial)	XX	44,600	XX	31,400	XX	41,500
Total	XX	178,000	XX	193,000	XX	194,000
<b>Missouri:</b>						
Cement, portland	4,820	333,000 <sup>e</sup>	5,180	352,000 <sup>e</sup>	5,260	388,000 <sup>e</sup>
Clays:						
Common	1,050	3,930	970	3,660	911	3,290
Fire	340	7,360	307	7,230	W	W
Sand and gravel:						
Construction	10,000	42,300	10,600	49,400	12,200	60,000
Industrial	W	W	586	12,800	589	14,200
Stone, crushed	73,200 <sup>r</sup>	376,000 <sup>r</sup>	71,500	426,000	69,100	415,000
Combined values of cement (masonry), clays (fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension granite), zinc, and values indicated by symbol W	XX	494,000	XX	488,000	XX	593,000
Total	XX	1,260,000	XX	1,340,000	XX	1,470,000
<b>Montana:</b>						
Clays, bentonite	181	14,900	181	14,900	102	8,400
Gemstones	NA	424	NA	707	NA	653
Palladium <sup>4</sup> kilograms	14,800	162,000	14,000	91,400	13,700	102,000
Platinum <sup>4</sup> do.	4,390	76,500	4,170	93,100	4,040	110,000
Sand and gravel, construction	16,700	76,000	15,200	74,200	14,400	80,000
Stone:						
Crushed	2,370	10,000	3,060	12,200	4,090	17,500
Dimension	12	2,620	14	2,590	14	2,550
Combined values of cement [masonry (2002-03), portland], clays (common), copper (2003-04), garnet [industrial (2002)], gold, lead, lime, molybdenum concentrates (2003-04), peat, silver, talc (crude), zinc	XX	129,000	XX	205,000	XX	303,000
Total	XX	471,000	XX	494,000	XX	624,000
<b>Nebraska:</b>						
Cement:						
Masonry	W	(6)	W	(6)	W	(6)
Portland	W	(6)	W	(6)	W	(6)
Clays, commone	133	338	133	338	133	338
Gemstones	NA	4	NA	4	NA	4
Lime	8	692	8	692	11	514

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
Nebraska—Continued:						
Sand and gravel:						
Construction	12,900	44,200	13,300	45,000	15,100	53,200
Industrial	W	(6)	W	(6)	W	(6)
Stone, crushed	7,220	53,200	6,960	49,200	6,900	51,900
Total	XX	98,400	XX	95,300	XX	106,000
Nevada:						
Clays:						
Bentonite	6	W	6	817	7	W
Fuller's earth	28	3,870	28	3,870	W	W
Gold <sup>4</sup> kilograms	240,000	2,410,000	227,000	2,660,000	216,000	2,850,000
Sand and gravel:						
Construction	35,400	159,000	37,100	174,000	43,100	197,000
Industrial	615	11,000	W	W	W	W
Silver <sup>4</sup> kilograms	424,000	63,000	322,000	50,900	302,000	65,000
Stone, crushed	8,010	41,900	7,830	48,500	9,760	72,800
Combined values of barite, brucite, cement (portland), clays (kaolin), copper (2004), diatomite, gemstones, gypsum (crude), lead (2002), lime, lithium carbonate, magnesite, perlite (crude), salt, zeolites (2004), and values indicated by symbol W	XX	228,000	XX	252,000	XX	286,000
Total	XX	2,910,000	XX	3,190,000	XX	3,470,000
New Hampshire:						
Gemstones	NA	6	NA	6	NA	6
Sand and gravel, construction	8,640	41,600	8,470	41,200	8,940	46,600
Stone:						
Crushed	4,810 <sup>r</sup>	24,500 <sup>r</sup>	4,110	21,400	4,750	24,000
Dimension, granite	W	(6)	W	(6)	W	(6)
Total	XX	66,100 <sup>r</sup>	XX	62,500	XX	70,600
New Jersey:						
Clays, common	W	W	W	W	W	122
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	16,000	96,300	18,200	105,000	20,100	120,000
Industrial	1,420	32,700	1,570	32,700	2,020	35,800
Stone, crushed	20,500	118,000 <sup>r</sup>	24,800	179,000 <sup>r</sup>	25,500	186,000
Combined values of greensand marl, peat, and values indicated by symbol W	XX	3,910	XX	4,190	XX	(6)
Total	XX	251,000 <sup>r</sup>	XX	321,000 <sup>r</sup>	XX	341,000
New Mexico:						
Clays, common	33	175	36	209	34	177
Copper <sup>3</sup>	112	187,000	88	165,000	122	362,000
Gemstones	NA	19	NA	20	NA	20
Sand and gravel, construction	12,800	62,600	13,300	65,300	13,600	89,500
Silver kilograms	--	--	--	--	3,570	767
Stone:						
Crushed	3,680	23,300	3,730 <sup>r</sup>	26,000 <sup>r</sup>	3,430	24,400
Dimension	20	1,370	57	2,590	57	2,430
Combined values of cement, gold (2004), gypsum (crude), helium (Grade-A), iron ore [usable (2002)], lime, mica [crude (2003-04)], molybdenum concentrates, perlite (crude), potash, pumice and pumicite, salt, zeolites (2004)	XX	282,000 <sup>r</sup>	XX	310,000	XX	387,000
Total	XX	557,000 <sup>r</sup>	XX	569,000	XX	866,000
New York:						
Clays, common	641	7,990	644	8,050	756	10,900

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
New York—Continued:						
Gemstones	NA	65	NA	65	NA	74
Salt	4,610	185,000	5,230	225,000	6,430	301,000
Sand and gravel, construction	29,800	158,000	30,200	172,000	33,100	189,000
Stone:						
Crushed	56,500	391,000	53,700	352,000	52,700	349,000
Dimension	46	5,990	65	6,110	44	4,560
Combined values of cement, garnet (industrial), peat, sand and gravel (industrial), talc (crude), wollastonite	XX	243,000	XX	235,000	XX	256,000
Total	XX	991,000	XX	998,000	XX	1,110,000
North Carolina:						
Clays:						
Common	2,420	11,900	2,190	10,900	2,260	12,900
Kaolin	W	W	W	4,500	34	764
Feldspar	330 <sup>r</sup>	17,100	362	18,900	351	20,500
Gemstones	NA	280	NA	279	NA	280
Mica, crude	40 <sup>r</sup>	3,100	39	9,580	40	9,600
Sand and gravel:						
Construction	10,000	50,700	10,500	55,600	11,500	59,700
Industrial	1,320	25,600	1,530	26,700	1,630	29,000
Stone:						
Crushed	62,900	451,000	67,100	505,000 <sup>r</sup>	72,300	548,000
Dimension	41	17,900	47	18,700	43	18,200
Combined values of olivine, phosphate rock, pyrophyllite (crude), and value indicated by symbol W	XX	111,000	XX	84,500	XX	105,000
Total	XX	689,000	XX	734,000 <sup>r</sup>	XX	805,000
North Dakota:						
Clays, common	57	W	W	W	W	186
Gemstones	NA	4	NA	4	NA	4
Sand and gravel, construction	10,700	27,900	13,500	35,900	11,700	32,800
Combined values of lime, sand and gravel (industrial), stone [crushed granite, limestone, volcanic cinder, and miscellaneous (2002), crushed limestone, volcanic cinder, miscellaneous (2003), crushed granite, scoria, traprock, volcanic cinder, miscellaneous (2004)], and values indicated by symbol W	XX	8,540	XX	10,600	XX	11,500
Total	XX	36,500	XX	46,500	XX	44,500
Ohio:						
Cement:						
Portland	1,020	78,000 <sup>e</sup>	1,030	82,200 <sup>e</sup>	98	13,000 <sup>e</sup>
Masonry	W	W	W	W	1,020	85,700 <sup>e</sup>
Clays:						
Common	1,310	7,820	1,440	7,430	1,360	7,480
Fire	W	W	W	W	42	W
Gemstones	NA	4	NA	4	NA	4
Lime	1,630	98,100	1,880	114,000	1,880	127,000
Sand and gravel:						
Construction	48,700	250,000	47,300	242,000	50,800	263,000
Industrial	1,000	28,900	1,120	32,100	1,180	34,200
Stone:						
Crushed	72,000 <sup>r</sup>	326,000 <sup>r</sup>	70,500	339,000	76,400	385,000
Dimension	30	4,990	30	5,090	38	5,100
Combined values of gypsum [crude (2002)], peat, salt, and values indicated by symbol W	XX	176,000	XX	188,000	XX	197,000
Total	XX	970,000 <sup>r</sup>	XX	1,010,000	XX	1,120,000

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Oklahoma:</b>						
Clays, common	1,030	2,250	1,160	2,390	1,150	2,410
Gemstones	NA	197	NA	197	NA	4
Gypsum, crude	2,520	18,500	2,250	14,100	3,250	20,800
Iodine, crude metric tons	1,420	21,600	1,090	15,900	1,130	15,900
Sand and gravel:						
Construction	10,200	41,300	11,000	48,500	12,000	53,700
Industrial	1,320	28,400	1,360	29,700	1,390	31,600
Stone:						
Crushed	45,000	196,000	40,100 <sup>r</sup>	193,000	40,200	195,000
Dimension	17	2,100	17	2,100	17	2,100
Tripoli metric tons	12,700	2,290	10,600	1,960	32,100	2,120
Combined values of cement, feldspar, helium [crude (2002), Grade-A], lime, salt	XX	160,000	XX	163,000	XX	183,000
Total	XX	473,000	XX	470,000	XX	507,000
<b>Oregon:</b>						
Clays:						
Bentonite	W	W	W	W	10	W
Common	237	662	W	W	W	W
Gemstones	NA	1,340	NA	1,200	NA	1,210
Sand and gravel, construction	19,500	116,000	18,500	110,000	21,000	125,000
Stone, crushed	19,800	101,000	21,800	117,000	22,800	126,000
Zeolites metric tons	W	NA	W	NA	--	--
Combined value of cement (portland), diatomite, emery (2002), lime, perlite (crude), pumice and pumicite, talc (crude), and values indicated by symbol W	XX	101,000	XX	92,700	XX	114,000
Total	XX	320,000	XX	320,000	XX	367,000
<b>Pennsylvania:</b>						
Cement:						
Masonry	341	38,000 <sup>e</sup>	342	35,900 <sup>e</sup>	W	W
Portland	6,130	456,000 <sup>e</sup>	5,720	421,000 <sup>e</sup>	6,230	473,000 <sup>e</sup>
Clays, common	779	2,560	750	2,240	822	3,270
Gemstones	NA	1	NA	1	NA	1
Lime	1,230	87,600	1,190	90,100	1,220	100,000
Peat	3	132	8	219	11	307
Sand and gravel, construction	18,100	115,000	18,400	115,000	20,000	127,000
Stone:						
Crushed	102,000	578,000 <sup>r</sup>	104,000 <sup>r</sup>	597,000	112,000	635,000
Dimension	37	11,900	32	10,400	33	10,100
Combined values of sand and gravel (industrial), tripoli, and value indicated by symbol W	XX	(6)	XX	(6)	XX	55,800
Total	XX	1,290,000	XX	1,270,000	XX	1,400,000
<b>Rhode Island:</b>						
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	1,760	14,100	2,450	21,000	2,490	22,000
Industrial	157	(6)	W	(6)	W	(6)
Stone, crushed	1,780	11,400	1,340	10,700	1,600	12,400
Total	XX	25,500	XX	31,700	XX	34,400
<b>South Carolina:</b>						
Cement:						
Masonry	426	41,000 <sup>e</sup>	425	43,700 <sup>e</sup>	453	49,900 <sup>e</sup>
Portland	2,510	176,000 <sup>e</sup>	3,150	194,000 <sup>e</sup>	3,110	196,000 <sup>e</sup>

See footnotes at end of table.



TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
South Carolina—Continued:						
Clays:						
Common	1,020	3,360	1,060	2,660	1,050	3,350
Fire	53	739	W	W	1	64
Kaolin	374	21,400	355	21,700	296	19,600
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	10,300	35,500	10,100	34,700	9,960	35,100
Industrial	831	16,400	655	16,700	719	17,600
Stone:						
Crushed	25,700	165,000	27,300	184,000	31,300	210,000
Dimension	9	850	9	850	9	850
Combined values of mica (crude), vermiculite (crude), and value indicated by symbol W	XX	(6)	XX	10,100	XX	(6)
Total	XX	460,000	XX	508,000	XX	532,000
South Dakota:						
Clays, common	208	W	213	W	188	W
Sand and gravel, construction	11,900	47,500	11,800	44,800	14,000	51,700
Stone, crushed	6,780	33,600	6,880	24,700	5,370	27,000
Combined values of cement (portland), feldspar, gemstones, gold, gypsum (crude), iron ore [usable (2002)], lime, mica (crude), silver (2002), stone (dimension granite), and values indicated by symbol W	XX	135,000	XX	130,000	XX	131,000
Total	XX	216,000	XX	199,000	XX	210,000
Tennessee:						
Clays:						
Ball	660	28,100	766	33,400	762	34,300
Common	262	1,540	304	585	365	3,140
Fuller's earth	W	W	92 <sup>e</sup>	5,000 <sup>e</sup>	W	W
Sand and gravel:						
Construction	9,220	51,900	7,550	44,100	7,830	47,500
Industrial	1,070	25,700	961	21,800	975	26,100
Stone, crushed	54,900	330,000	55,100	354,000	57,900	382,000
Combined values of cement, clays [kaolin (2002, 2004)], gemstones, lime, salt, stone (dimension marble), zinc, and values indicated by symbol W	XX	212,000	XX	164,000	XX	160,000
Total	XX	648,000	XX	623,000	XX	653,000
Texas:						
Cement:						
Masonry	294	36,000 <sup>e</sup>	307	36,100 <sup>e</sup>	319	38,000 <sup>e</sup>
Portland	10,500	740,000 <sup>e</sup>	11,100	747,000 <sup>e</sup>	11,200	800,000 <sup>e</sup>
Clays:						
Common	2,160	21,200	2,110	8,890	2,160	8,890
Fuller's earth	W	W	27	2,400	W	W
Kaolin	39	8,420	33	7,150	W	W
Gemstones	NA	12	NA	201	NA	201
Gypsum, crude	2,060	13,400	1,810	12,300	2,450	18,800
Lime	1,530	98,400	1,630	110,000	1,630	115,000
Salt	9,100	103,000	9,640	116,000	9,870	118,000
Sand and gravel:						
Construction	82,600	413,000	86,200	425,000	81,700	436,000
Industrial	1,670	62,200	1,930	81,700	2,790	109,000
Stone:						
Crushed	109,000 <sup>r</sup>	528,000 <sup>r</sup>	126,000	595,000	122,000	582,000
Dimension	65	12,200	87	16,400	64	15,200

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
Texas—Continued:						
Talc, crude	W	W	246	W	258	W
Combined values of brucite, clays (ball, bentonite), helium, zeolites (2004), and values indicated by symbol W	XX	40,900	XX	33,300	XX	46,300
Total	XX	2,080,000 <sup>r</sup>	XX	2,190,000	XX	2,290,000
Utah:						
Beryllium concentrates metric tons	1,970	NA	2,100	NA	2,210	NA
Clays:						
Bentonite	W	W	W	W	73	W
Common	349	5,010	300	3,270	443	5,600
Gemstones	NA	230	NA	233	NA	235
Salt	2,090	113,000	2,200	119,000	2,250	107,000
Sand and gravel, construction	27,600	104,000	27,400	113,000	29,800	125,000
Stone, crushed	7,640	38,100	7,820	40,100	8,020	44,900
Combined values of cement (portland), copper, gold, gypsum (crude), helium (Grade-A), lime, magnesium compounds, magnesium metal, molybdenum concentrates, perlite (crude), phosphate rock, potash, silver, stone (dimension sandstone), and values indicated by symbol W	XX	980,000	XX	1,080,000	XX	1,660,000
Total	XX	1,240,000	XX	1,360,000	XX	1,940,000
Vermont:						
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	4,990	22,200	4,520	21,100	4,970	24,000
Stone:						
Crushed	4,360	21,300	4,290	23,900	5,110	30,800
Dimension	101	27,000	102	26,700	100	30,600
Talc, crude metric tons	W	(6)	W	(6)	W	(6)
Total	XX	70,600	XX	71,800	XX	85,400
Virginia:						
Clays:						
Bentonite	--	--	--	--	5	W
Common	827	3,320	958	2,530	994	4,640
Kyanite <sup>c</sup>	90	13,400	90	13,400	90	13,400
Sand and gravel, construction	10,500	60,000	11,300	65,500	12,800	75,800
Stone:						
Crushed	58,900	395,000	66,500	481,000	72,500	546,000
Dimension	6	651	6	651	5	594
Combined values of cement, clays (fuller's earth), feldspar, gemstones, iron oxide pigments (crude), lime, sand and gravel (industrial), talc (crude), titanium concentrates (ilmenite), vermiculite (crude), zirconium concentrates, and value indicated by symbol W	XX	218,000	XX	223,000	XX	253,000
Total	XX	690,000	XX	786,000 <sup>7</sup>	XX	894,000
Washington:						
Clays, common	89	169	83	204	W	W
Gemstones	NA	29	NA	44	NA	44
Gold <sup>4</sup> kilograms	980	9,810	--	--	W	W
Sand and gravel, construction	43,200	223,000	40,700	216,000	41,500	227,000
Silver <sup>4</sup> kilograms	729	108	--	--	W	W
Stone, crushed	13,700	79,900	12,000	73,700	12,300	76,100
Combined values of cement (portland), diatomite, lead (2004), lime, olivine, peat, sand and gravel (industrial), stone [dimension miscellaneous (2004)], zinc (2004), and values indicated by symbol W	XX	124,000	XX	107,000	XX	205,000
Total	XX	437,000	XX	396,000	XX	507,000

See footnotes at end of table.

TABLE 5—Continued  
NONFUEL MINERAL PRODUCTION IN THE UNITED STATES, BY STATE<sup>1, 2</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>West Virginia:</b>						
Clays, common	151	407	142	376	161	441
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	1,700	8,450	971	4,750	524	2,500
Industrial	W	W	W	W	343	17,300
Stone, crushed	14,400	63,400	14,100	69,100 <sup>r</sup>	14,700	73,100
Combined values of cement, lime, peat, salt, stone (dimension sandstone), and values indicated by symbol W	XX	94,900	XX	90,100	XX	73,500
Total	XX	167,000	XX	164,000	XX	167,000
<b>Wisconsin:</b>						
Cement, portland	W	(6)	W	(6)	W	(6)
Gemstones	NA	6	NA	6	NA	6
Lime	603	35,600	757	46,000	850	53,900
Peat	W	(6)	W	(6)	W	(6)
Sand and gravel:						
Construction	39,000	154,000	38,500	150,000	43,400	178,000
Industrial	1,740	32,700	1,930	40,200	2,140	47,000
Stone:						
Crushed	36,200	151,000	35,900	160,000	38,600	167,000
Dimension	100	19,300	101	19,700	232	23,800
Total	XX	392,000	XX	417,000	XX	470,000
<b>Wyoming:</b>						
Clays:						
Bentonite	3,340	145,000	3,420	148,000	3,510	151,000
Common	33	446	25	55	49	107
Gemstones	NA	12	NA	13	NA	13
Sand and gravel, construction	7,710	32,100	8,290	36,400	10,200	40,100
Stone, crushed	4,450 <sup>r</sup>	20,500 <sup>r</sup>	5,020	22,600	7,150	34,500
Combined values of cement (portland), gypsum (crude), helium (Grade-A), lime, soda ash, zeolites (2004)	XX	806,000	XX	792,000	XX	819,000
Total	XX	1,000,000 <sup>r</sup>	XX	999,000	XX	1,040,000
<b>Undistributed:</b>						
Connecticut, Delaware, Hawaii (2002-03), Massachusetts, Minnesota, Nebraska, New Hampshire, Pennsylvania (2002-03), Rhode Island, South Carolina (2002, 2004), Vermont, Winsonsin, undistributed	XX	202,000	XX	220,000	XX	197,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Combined values" data for each State. XX Not applicable. -- Zero.

<sup>1</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Recoverable content of ores, etc.

<sup>4</sup>Excludes certain stones; kind and value included in "Combined value."

<sup>5</sup>Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

<sup>6</sup>Withheld to avoid disclosing company proprietary data; values included in "Undistributed."

<sup>7</sup>Correction posted July 13, 2006.

TABLE 6  
NONFUEL RAW MINERAL PRODUCTION IN THE COMMONWEALTH OF PUERTO RICO AND ISLANDS  
ADMINISTERED BY THE UNITED STATES<sup>1, 2</sup>

(Thousand metric tons and thousand dollars)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Puerto Rico:</b>						
Cement, portland	1,530	W	1,490	W	1,580	W
Clays, common	114 <sup>r</sup>	585	114	585	114	585
Lime	W	W	W	W	11	2,250
Salt	45	1,500	45	1,500	45	1,500
Stone, crushed	7,940	40,600	9,130	60,000	8,660	57,600
Combined values of sand and gravel (industrial), stone (dimension marble), and values indicated by symbol W	XX	144,000	XX	119,000	XX	125,000
Total	XX	187,000	XX	181,000	XX	187,000
<b>Administered Islands:</b>						
American Samoa, stone (crushed traprock)	(3)	(3)	(3)	(3)	(3)	(3)
Guam, stone, crushed	846	8,370	728	7,670	1,410	13,000
Virgin Islands, stone (crushed limestone and traprock)	(3)	(3)	(3)	(3)	(3)	(3)
Total	XX	8,370	XX	7,670	XX	13,000

<sup>e</sup>Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Combined values" data.

XX Not applicable.

<sup>1</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Withheld to avoid disclosing company proprietary data.

TABLE 7  
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004		
	Quantity	Value	Quantity	Value	
Metals:					
Aluminum:					
Crude and semicrude	metric tons	1,540,000	3,220,000	1,820,000	4,130,000
Manufactures	do.	115,000	365,000	129,000	437,000
Antimony:					
Metal, alloys, waste and scrap	do.	771	3,010	566	2,280
Oxide, antimony content	do.	2,910	11,600	3,240	13,200
Arsenic metal, arsenic content	do.	173	15,200	220	20,700
Bauxite and alumina:					
Alumina, calcined equivalent		1,090	368,000	1,230	439,000
Bauxite:					
Calcined, refractory and other grade		22	3,420	21	2,950
Crude and dried		55	8,270	42	7,910
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	36,200	27,200	28,100	21,300
Beryllium, unwrought, and waste and scrap, other including articles not elsewhere specified	kilograms	269,000	18,800	217,000	19,600
Bismuth, metal, alloys, waste and scrap, bismuth content	do.	108,000	3,130	109,000	2,500
Cadmium:					
Metal, includes cadmium in alloys and scrap	do.	558,000	1,060	132,000	861
Sulfide, gross weight	do.	184,000	97	160,000	76
Chromium:					
Ores and concentrate	do.	103,000	7,410	43,100	10,400
Metals and alloys:					
Metal, unwrought powders, waste and scrap, other	do.	941	11,900	931	17,600
Ferroalloys, high-carbon, low-carbon, ferrochromium-silicon	do.	4,890	5,240	9,140	12,000
Chemicals:					
Oxides, trioxides and other	do.	10,100	20,600	12,900	22,200
Sulfates	do.	5	62	39	417
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	12,200	8,590	21,800	14,400
Pigments and preparations	do.	867	4,610	671	3,780
Cobalt:					
Acetates and chlorides	do.	616	3,370	666	5,490
Oxides and hydroxides	do.	375	6,110	324	13,800
Metal:					
Unwrought, powders, waste and scrap, mattes, other intermediate products of metallurgy	do.	2,290	48,600	2,110	79,400
Wrought and cobalt articles	do.	1,010	31,300	1,150	48,400
Columbium (niobium) and tantalum:					
Columbium:					
Ores and concentrates	do.	170	1,270	16	108
Ferrocolumbium	do.	143	1,430	294	2,920
Tantalum:					
Ores and concentrates, includes synthetic	do.	365	4,360	723	19,300
Unwrought, waste and scrap, powders, alloys, metal	do.	348	163,000	598	173,000
Wrought	do.	119	62,200	162	83,400
Copper:					
Unmanufactured, does not include unalloyed scrap, copper content	do.	145,000	265,000	211,000	429,000
Semimanufactures	do.	189,000	537,000	236,000	863,000
Scrap, alloyed and unalloyed	do.	689,000	664,000	714,000	882,000
Ferroalloys not listed elsewhere:					
Ferrophosphorous	do.	787	511	388	335
Other	do.	1,350	2,470	1,620	2,670

See footnotes at end of table.

TABLE 7—Continued  
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
<b>Metals—Continued:</b>				
Gold:				
Ores and concentrates kilograms	826	7,870	1,150	10,200
Dore and precipitates do.	131,000	1,550,000	142,000	1,860,000
Bullion, refined do.	220,000	2,500,000	114,000	1,500,000
Waste and scrap do.	159,000	559,000	726,000	815,000
Metal powder do.	874	9,590	647	8,670
Compounds do.	565,000	10,600	1,170,000	29,000
Indium <sup>c</sup> metric tons	10	1,740	NA	NA
Iron and steel:				
Steel mill products	7,460	5,490,000	7,200	9,280,000
Fabricated steel products	963	3,170,000	1,410	4,340,000
Cast iron and steel products	206	374,000	234	661,000
Iron and steel scrap:				
Ferrous, includes tinplate and ternplate, excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping	10,800 <sup>r</sup>	1,940,000 <sup>r</sup>	11,800	2,910,000
Pig iron, all grades	86 <sup>r</sup>	8,850 <sup>r</sup>	48	6,690
Direct-reduced iron, steelmaking grade	5 <sup>r</sup>	525 <sup>r</sup>	13	1,360
Ships, boats, and other vessels for scrapping	48	2,580	16	2,680
Used rails for rerolling and other uses, includes mixed (used plus new) rails	49	16,100	42	18,100
Iron ore	6,770	248,000	8,400	334,000
Lead:				
Ore and concentrates, Pb content metric tons	253,000	97,700	292,000	157,000
Base bullion, Pb content do.	593	885	129	841
Unwrought and alloys, Pb content do.	92,100	58,500	58,600	50,100
Wrought and alloys, Pb content do.	30,500	34,500	23,800	42,300
Scrap, gross weight do.	92,800	23,300	56,300	14,800
Magnesium:				
Waste and scrap, Mg content do.	5,030	11,800	4,790	11,300
Metal, Mg content do.	8,770	15,700	1,760	3,830
Alloys, gross weight do.	2,330	8,330	1,750	7,780
Powder, sheets, tubing, ribbons, wire, other forms, gross weight do.	4,260	28,300	3,530	25,800
Manganese, gross weight:				
Ores and concentrates with 20% or more manganese do.	18,200	3,580	123,000	12,400
Ferromanganese, all grades do.	10,600	8,840	9,120	10,600
Silicomanganese do.	606	554	502	632
Metal, including alloys and waste and scrap do.	2,340	4,790	2,790	6,090
Dioxide do.	4,470	4,590	4,000	3,680
Mercury:				
Metal do.	287	1,690	278	2,310
Amalgams of precious metals whether or not chemically defined do.	1,660	119,000	603	155,000
Molybdenum:				
Ore and concentrates, including roasted and other, Mo content do.	29,500	195,000	46,200	358,000
Chemicals:				
Oxides and hydroxides, gross weight do.	2,580	20,000	5,280	80,300
Molybdates, all, gross weight do.	2,270	16,700	2,680	28,500
Ferromolybdenum, Mo content do.	617	8,660	925	21,200
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight do.	1,060	28,400	1,520	66,000
Nickel, Ni content:				
Primary, unwrought and chemicals do.	6,330	132,000	8,000	186,000
Secondary, stainless steel scrap and waste and scrap do.	47,300	424,000	48,300	609,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes do.	2,890	34,400	1,120	16,400
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles, gross weight do.	25,900	427,000	29,700	566,000

See footnotes at end of table.

TABLE 7—Continued  
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product		2003		2004	
		Quantity	Value	Quantity	Value
Metals—Continued:					
Platinum-group metals:					
Palladium, Pd content	kilograms	22,300	110,000	31,400	142,000
Platinum, includes waste and scrap, Pt content	do.	45,900	722,000	43,300	825,000
Iridium, osmium, ruthenium, gross weight	do.	145	2,110	629	3,190
Rhodium, Rh content	do.	479	15,100	311	7,800
Rare earths, estimated rare-earth oxide content:					
Cerium compounds	do.	1,910,000	10,100	2,280,000	12,600
Compounds, inorganic and organic	do.	1,790,000	19,900	4,800,000	18,900
Metals, including scandium and yttrium	do.	730,000	3,250	1,010,000	6,050
Ferrocium and other pyrophoric alloys	do.	2,880,000	10,700	3,720,000	16,800
Selenium, Se content	do.	249,000 <sup>r</sup>	2,450 <sup>r</sup>	160,000	2,810
Silicon, gross weight:					
Ferrosilicon	metric tons	11,600	10,400	11,500	11,700
Metal	do.	20,100	368,000	18,600	489,000
Silver:					
Bullion, Ag content	kilograms	135,000	20,700	302,000	64,500
Dore, Ag content	do.	19,800	3,190	79,800	18,800
Metal powder, gross weight	do.	473,000	81,500	708,000	122,000
Nitrate, gross weight	do.	69,200	9,120	61,500	5,720
Ores and concentrates, Ag content	do.	57,900	16,200	1,560	306
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	344,000	59,400	269,000	48,300
Waste and scrap, gross weight	do.	2,380,000 <sup>r</sup>	555,000 <sup>r</sup>	2,240,000	424,000
Unwrought, other, gross weight	do.	26,000	5,470	39,600	8,690
Thallium, unwrought powders, waste and scrap, others	do.	2,090	203	1,190	276
Thorium and thorium-bearing materials, thorium ore, monazite concentrate, compounds	do.	23,600 <sup>r</sup>	171 <sup>r</sup>	731	298
Tin:					
Ingots and pigs	metric tons	3,690	18,500	3,650	25,700
Tin scrap and other tin bearing material, except tinplate scrap, includes rods, profiles, wire, powders, flakes, tubes, pipes	do.	24,500	32,600	16,800	42,900
Tinplate and terneplate	do.	263,000	154,000	262,000	169,000
Titanium:					
Metal, waste and scrap, unwrought, wrought products and castings, ferrotitanium and ferrosilicon titanium	do.	19,500	382,000	25,200	421,000
Ores and concentrates	do.	10,300	2,720	8,690	3,370
Pigment, dioxide and oxide	do.	584,000	958,000	635,000	1,090,000
Tungsten, W content:					
Ammonium paratungstate	do.	99	543	125	722
Carbide powder	do.	1,690 <sup>e</sup>	19,700	1,440 <sup>e</sup>	24,200
Metal powders	do.	1,130 <sup>e</sup>	24,100	433 <sup>e</sup>	18,700
Miscellaneous tungsten-bearing materials, ferrotungsten, ferrosilicon tungsten, unwrought, waste and scrap, wrought, compounds	do.	2,150	34,700	1,730	43,700
Ores and concentrates	do.	20 <sup>e</sup>	630	43 <sup>e</sup>	959
Vanadium:					
Aluminum-vanadium master alloy, gross weight	kilograms	9,590,000 <sup>r</sup>	22,800 <sup>r</sup>	14,600,000	32,100
Ferrovandium, V content	do.	424,000	5,740	285,000	9,210
Metal, including waste and scrap, gross weight	do.	201,000	3,910	522,000	7,760
Pentoxide, anhydride, V content	do.	791,000	4,720	598,000	4,270
Other oxides and hydroxides, V content	do.	438,000	3,810	823,000	6,230
Zinc:					
Compounds, chloride, compounds, n.s.p.f., oxide, sulfate	do.	22,600	27,900	27,200	38,100
Ores and concentrates, Zn content	do.	841,000	377,000	744,000	413,000
Rolled	do.	9,430	9,880	9,770	12,700
Slab	do.	1,680	1,760	3,300	5,330

See footnotes at end of table.

TABLE 7—Continued  
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
<b>Metals—Continued:</b>				
Zirconium:				
Ferrozirconium kilograms	1,930	2,030	913	1,310
Ores and concentrates do.	70,600	37,600	68,800	45,500
Oxide, includes germanium oxides and zirconium dioxides do.	1,520	15,900	1,600	18,100
Unwrought powders do.	101	2,400	138	2,600
Waste and scrap do.	1,590	94,000	1,560	92,400
Total	XX	27,800,000	XX	36,700,000
<b>Industrial minerals:</b>				
Abrasives, manufactured:				
Aluminum oxide, crude do.	11,800	34,600	13,900	41,200
Metallic abrasives do.	22,000	14,600	26,500	20,600
Silicon carbide, crude, ground and refined do.	13,200	12,100	13,900	14,600
Asbestos, includes reexports:				
Manufactured	NA	290,000	NA	341,000
Unmanufactured metric tons	2,820	920	1,580	333,000
Barite, natural barium sulfate do.	44,400	4,620	69,900	6,400
Boron minerals and compounds:				
Boric acid, includes orthoboric and anhydrous	70	36,400	61	35,000
Sodium borates	131	55,400	135	60,200
Bromine:				
Compounds, includes methyl bromine and ethylene dibromide, Br content metric tons	6,040	11,800	6,600	13,800
Elemental, gross weight do.	2,280	3,090	2,840	2,070
Cement, hydraulic and clinker	837	61,600	818	63,000
Clays:				
Ball	139	8,430	107	8,200
Bentonite	721	88,100	915	105,000
Fire	285	27,400	332	32,300
Fuller's earth	48	8,830	49	10,300
Kaolin	3,520	574,000	3,640	600,000
Other, n.e.c., includes chamotte or dinas earth, activated clays and earths, artificially activated clays	416	153,000	586	181,000
Diamond:				
Gemstones, natural, including reexports thousand carats	16,500	5,010,000 <sup>r</sup>	19,800	6,600,000
Industrial including exports and reexports:				
Unworked do.	2,710	23,100	2,340	21,700
Powder, dust and grit, natural and synthetic do.	81,100	46,700	97,900	51,600
Diatomite	136	43,300	143	53,700
Feldspar metric tons	8,950	1,310	9,630	1,420
Fluorspar do.	30,700	4,610	20,600	3,200
Garnet, industrial <sup>e</sup>	11	7,460	11	8,990
Graphite, natural and artificial metric tons	91,900	97,500	94,900	117,000
Gypsum and gypsum products:				
Crude	166	18,600	149	15,000
Plasters	161	31,000	332	31,800
Boards	50	39,300	83	51,100
Other	XX	21,800	XX	29,300
Helium, Grade-A million cubic meters	41	78,200	45	87,400
Iodine:				
Crude/resublimed metric tons	1,590	19,600	1,270	11,800
Potassium iodide do.	51	1,010	101	1,970
Iron oxide pigments and hydroxides:				
Pigment grade do.	4,500	11,000	3,120	7,380
Other grade do.	48,800	32,700	72,700	41,800
Kyanite, andalusite, sillimanite	28	4,930	32	5,880

See footnotes at end of table.



TABLE 7—Continued  
U.S. EXPORTS OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
Industrial minerals—Continued:				
Lime	98	13,700	100	14,200
Lithium chemicals:				
Carbonate metric tons	2,980	9,910	3,910	12,200
Hydroxide do.	5,830	21,400	5,780	20,000
Magnesium compounds:				
Compounds, chlorides, hydroxide and peroxide, sulfates do.	31,300	17,000	41,100	18,100
Magnesite, crude and processed:				
Caustic-calcined magnesite do.	4,060	2,330	3,720	2,200
Dead-burned and fused magnesite do.	56,500	20,900	29,900	17,300
Other magnesite do.	27,500	18,800	23,800	18,200
Crude do.	18,000	2,030	19,500	2,250
Mica:				
Scrap and flake:				
Powder do.	8,020	5,190	7,200	4,780
Waste do.	2,350	794	2,730	731
Sheet:				
Unworked do.	33 <sup>r</sup>	99	29	58
Worked do.	821	12,300	935	11,100
Peat	29	3,090	29	3,390
Perlite, crude and expanded <sup>c</sup> metric tons	37,000	1,410	37,000	1,500
Pumice and pumicite	26	11,000	27	7,000
Salt	718	37,500	1,110	47,600
Sand and gravel:				
Construction:				
Sand	1,180	20,700	124	27,500
Gravel	593	4,180	553	4,610
Industrial	2,620	155,000	1,790	174,000
Silica, special stone products	NA	7,800	NA	8,900
Soda ash	4,450	515,000	4,670	514,000
Stone:				
Crushed	1,010	45,600	1,280	54,500
Dimension	XX	63,500	XX	63,700
Strontium compounds:				
Carbonate, precipitated metric tons	375	452	360	266
Oxide, hydroxide, peroxide do.	653	374	469	477
Sulfur:				
Elemental	840 <sup>r</sup>	54,400 <sup>r</sup>	949	63,300
Sulfuric acid, 100% H <sub>2</sub> SO <sub>4</sub> metric tons	205,000	18,900 <sup>r</sup>	204,000	21,300
Talc, excludes powders, talcum (in package), face, compact	192	39,100	202	39,600
Vermiculite <sup>c</sup>	15	2,050	10	1,600
Wollastonite <sup>c</sup>	4,000	1,600	12,500	3,750
Zeolites <sup>c</sup> metric tons	1,000	200	1,000	200
Total	XX	7,980,000	XX	10,200,000
Grand total	XX	35,700,000	XX	46,900,000

<sup>c</sup>Estimated. <sup>r</sup>Revised. NA Not available. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004		
	Quantity	Value	Quantity	Value	
Metals:					
Aluminum:					
Crude and semicrude	metric tons	4,130,000	6,840,000	4,720,000	9,240,000
Manufactures	do.	271,000	642,000	288,000	756,000
Antimony:					
Metal	do.	4,670	10,800	8,270	19,100
Ore and concentrate, antimony content	do.	412	1,010	1,750	4,900
Oxide, antimony content	do.	21,600	54,400	23,500	67,200
Arsenic:					
Acid	do.	1 <sup>r</sup>	6 <sup>r</sup>	22	32
Metal	do.	990	3,040	872	3,030
Sulfide	do.	(2) <sup>r</sup>	5 <sup>r</sup>	(2)	2
Trioxide	do.	27,300	13,800	8,090	4,080
Bauxite and alumina:					
Alumina, calcined equivalent		2,310	571,000	1,650	533,000
Bauxite:					
Calcined, refractory and other grade		307	25,700	341	36,900
Crude and dried		8,390	137,000	10,000	186,000
Speciality aluminum compounds, sulfate, chloride, fluoride-based	metric tons	16,300	9,360	11,900	6,360
Beryllium, ore, concentrates, oxide, hydroxide, unwrought including powders, waste and scrap, other, beryllium-copper master alloys, beryllium-copper plates, sheets, strip <sup>3</sup>	kilograms	767,000	6,060	1,280,000	14,200
Bismuth, metallic	do.	2,320,000	14,400	1,980,000	14,500
Cadmium:					
Metal	do.	18,000	383	38,000	127
Sulfide, gross weight	do.	7,470	53	1,810	23
Chromium:					
Chromite ore	metric tons	173,000	9,290	153,000	17,500
Metals and alloys:					
Ferrochromium-silicon	do.	38,700	24,900	30,600	31,500
Metal, unwrought powders, waste and scrap, other	do.	8,570	45,200	9,630	56,000
Chemicals:					
Oxides, hydroxides, trioxides and other	do.	16,600	26,500	9,960	18,900
Sulfates	do.	162	194	111	161
Salts of oxometallic or peroxometallic acids, zinc and lead chromate, sodium dichromate, potassium dichromate, other	do.	3,650	2,750	1,880	3,430
Carbide	do.	203	2,340	138	1,630
Pigments and preparations based on chromium	do.	8,290	21,700	7,540	20,200
Cobalt:					
Metal:					
Alloys, unwrought, waste and scrap, wrought, cobalt articles	do.	678	15,400	1,330	29,500
Unwrought, excluding alloys and waste and scrap, includes cathode and metal powder, may include intermediate products of cobalt metallurgy	do.	6,700	135,000	7,250	311,000
Oxide and hydroxides	do.	1,370	23,000	1,300	45,100
Other forms, includes acetates, carbonates, chlorides, sulfates	do.	1,350	8,350	1,720	22,100
Columbium (niobium) and tantalum:					
Columbium:					
Ores and concentrates	do.	23	610	5	41
Oxide	do.	837	12,200	906	13,900
Ferrocolumbium	do.	6,280	54,700	7,950	69,000
Unwrought, alloys, metal, powder	do.	743	16,400	940	18,500
Tantalum:					
Ores and concentrates, includes synthetic concentrates	do.	1,580	60,100	--	--
Unwrought, waste and scrap, powders, alloys, metal	do.	441	57,700	1,060	138,000
Wrought	do.	32	7,760	38	10,000

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product		2003		2004	
		Quantity	Value	Quantity	Value
Metals—Continued:					
Copper:					
Unmanufactured, does not include unalloyed scrap, copper content	metric tons	1,070,000	1,990,000	983,000	2,650,000
Semimanufactures	do.	427,000	939,000	390,000	1,270,000
Scrap, alloyed and unalloyed	do.	90,600 <sup>r</sup>	124,000	102,000	187,000
Ferroalloys not listed elsewhere:					
Ferrophosphorus	do.	11,700	2,250	7,280	1,840
Other	do.	16,200	19,000	8,520	12,700
Gallium:					
Unwrought and waste and scrap	kilograms	14,300	3,520	19,400	4,130
Gallium arsenide wafers, doped and undoped	do.	142,000 <sup>r</sup>	108,000 <sup>r</sup>	230,000	154,000
Germanium, wrought, unwrought, waste and scrap, gross weight	do.	8,380	6,310	9,130	7,260
Gold:					
Ores and concentrates	do.	1,960	23,300	1,860	19,200
Dore and precipitates	do.	95,200	832,000	142,000	1,590,000
Bullion, refined	do.	152,000	1,810,000	139,000	1,830,000
Waste and scrap	do.	15,000	133,000	20,500	161,000
Metal powder	do.	4,080	43,000	10,900	59,400
Compounds	do.	31,800	785	60,000	1,530
Indium, unwrought and waste and scrap	do.	123,000	16,600	143,000	58,800
Iron and steel:					
Steel mill products		21,000	10,400,000	32,500	21,400,000
Fabricated steel products		4,300	6,770,000	4,740	8,260,000
Cast iron and steel products		545	445,000	611	638,000
Stainless steel	metric tons	526,000	2,040,000	560,000	2,490,000
Iron and steel scrap:					
Ferrous, includes tinplate and ternplate, excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping		3,480 <sup>r</sup>	511,000 <sup>r</sup>	4,660	1,230,000
Pig iron, all grades		3,890 <sup>r</sup>	571,000 <sup>r</sup>	6,400	1,360,000
Direct-reduced iron, steelmaking grade		1,940 <sup>r</sup>	242,000 <sup>r</sup>	2,450	463,000
Ships, boats, and other vessels for scrapping		3	583	(2)	128
Used rails for rerolling and other uses, includes mixed (used plus new) rails		207	45,600	132	44,100
Iron ore		12,600	328,000	11,800	371,000
Lead:					
Pigs and bars, Pb content	metric tons	175,000	92,400	197,000	175,000
Pigments and compounds, Pb content	do.	36,000	50,100	33,200	48,000
Scrap, reclaimed, includes ash and residues, Pb content	do.	4,150	2,360	4,780	3,510
Wrought, all forms, including wire and powders, gross weight	do.	7,780	17,800	11,000	25,200
Magnesium:					
Waste and scrap, gross weight	do.	16,200	22,000	11,700	17,600
Metal, gross weight	do.	27,300	53,600	34,300	78,200
Alloys, Mg content	do.	38,800	98,900	51,500	152,000
Powder, sheets, tubing, ribbons, wire, other forms, Mg content	do.	1,160	10,300 <sup>r</sup>	1,200	10,200
Manganese:					
Ores and concentrates with 20% or manganese, all grades, Mn content	do.	175,000	27,000	234,000	37,700
Ferromanganese, all grades, Mn content	do.	187,000	117,000	403,000	418,000
Silicomanganese, Mn content	do.	182,000	133,000	269,000	386,000
Metal, unwrought, other wrought, waste and scrap, gross weight	do.	19,800	20,800	34,700	49,900
Chemicals, manganese dioxide and potassium permanganate, gross weight	do.	50,900	64,700	27,600	33,000
Mercury:					
Metal	do.	46	914	92	1,350
Amalgams of precious metals whether or not chemically defined	do.	42	28,200	78	100,000

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product		2003		2004	
		Quantity	Value	Quantity	Value
Metals—Continued:					
Molybdenum:					
Ores and concentrates, including roasted and other, Mo content	metric tons	5,190	51,400	8,780	268,000
Chemicals, gross weight:					
Oxides and hydroxides	do.	1,300	9,600	822	15,800
Molybdates, all	do.	1,940	12,600	2,200	19,800
Orange	do.	987	4,310	1,030	4,760
Ferromolybdenum, Mo content	do.	3,690	37,500	5,310	158,000
Other, includes powders, unwrought, bars and rods, waste and scrap, wire, other, gross weight	do.	712	15,400	896	34,300
Nickel, Ni content:					
Primary, chemicals and unwrought	do.	125,000	1,150,000	136,000	1,890,000
Secondary, stainless steel scrap and waste and scrap	do.	11,500	108,000	18,800	250,000
Wrought, not alloyed, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes	do.	659	13,400	797	20,300
Alloyed, unwrought ingot, bars, rods, profiles, wire, sheets, strip, foil, tubes, pipes, other alloyed articles	do.	18,300	277,000	19,900	349,000
Platinum-group metals, metal content:					
Platinum, grains and nuggets, sponge, other unwrought, other, waste and scrap, coins	do.	88,400	1,770,000	86,400	2,200,000
Palladium, unwrought and other	do.	105,000	663,000	127,000	931,000
Iridium, unwrought and other forms	kilograms	2,200	6,090	3,230	18,000
Osmium, unwrought	do.	53	430	75	421
Ruthenium, unwrought	do.	15,900	16,700	18,800	35,900
Rhodium, unwrought and other forms	do.	12,000	202,000	13,200	397,000
Rare earths, estimated equivalent rare-earth oxide (REO) content:					
Cerium compounds, including oxides, hydroxides, nitrates, sulfate chlorides, oxalates	do.	2,430,000	15,100	1,880,000	25,900
Yttrium compounds content by weight greater than 19% but less than 85% oxide equivalent	do.	51,900	4,330	136,000	3,510
Compounds, including oxides, hydroxides, nitrates, other compounds except chlorides	do.	9,580,000	55,500	11,400,000	64,100
Mixtures of REO's except cerium oxide	do.	1,710,000	6,100	1,660,000	4,930
Metals, whether intermixed or alloyed	do.	884,000 <sup>r</sup>	5,140	804,000	3,500
Mixtures of rare-earth chlorides, except cerium chloride	do.	1,910,000	6,210	1,310,000	6,870
Ferrocium and other pyrophoric alloys	do.	102,000	1,650	105,000	1,770
Rhenium:					
Metal	do.	13,200	14,400	11,800	12,900
Ammonium perrhenate	do.	1,990	1,560	12,100	7,560
Selenium and tellurium:					
Selenium, Se content:					
Selenium	do.	353,000	4,410	402,000	16,000
Dioxide	do.	14,500	169	10,300	293
Tellurium, Te content	do.	48,900	1,610	62,800	2,620
Silicon, gross weight:					
Ferrosilicon	metric tons	270,000	183,000	247,000	201,000
Metal	do.	128,000	220,000	167,000	314,000
Silver:					
Ash and residues, Ag content	kilograms	1,340	266	6,710	1,530
Bullion, Ag content	do.	4,000,000	630,000	3,410,000	728,000
Dore, Ag content	do.	233,000	72,200	346,000	117,000
Metal powder, gross weight	do.	20,800	4,160	27,400	6,920
Nitrate, gross weight	do.	661	96	--	--
Ores and concentrates, Ag content	do.	2,540	1,370	2,220	1,410
Semimanufactured forms containing 99.5% or more by weight of silver, gross weight	do.	17,000	2,700	52,300	11,900
Waste and scrap, gross weight	do.	886,000	107,000	2,020,000	160,000
Unwrought, other, gross weight	do.	281,000	42,200	342,000	69,600
Thallium, unwrought powders, waste and scrap, other	do.	81	20	325	117
Thorium and thorium-bearing materials, compounds	do.	4,140	149	5,320	170

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
<b>Metals—Continued:</b>				
Tin, gross weight:				
Compounds metric tons	443	3,000	635	6,030
Dross, skimmings, scrap, residues, alloys, n.s.p.f. do.	3,290	10,500	5,790	24,500
Metal, unwrought do.	37,000	169,000	47,600	390,000
Miscellaneous, includes tinfoil, tin powder, flitters, metallics, manufactures, n.s.p.f. do.	NA	3,510	NA	7,080
Tinplate and terneplate do.	282,000	173,000	328,000	215,000
Tinplate scrap do.	20,100	3,390	9,650	2,020
Titanium:				
Concentrate:				
Ilmenite metric tons	395,000	39,500	244,000	40,900
Rutile, natural and synthetic do.	427,000	162,000	360,000	165,000
Metal: <sup>3</sup>				
Waste and scrap do.	5,550	19,700	8,830	53,600
Unwrought do.	9,590	63,500	11,900	79,500
Ingots do.	663	6,710	1,530	14,800
Billets, bloom, sheet, bar, slab do.	113	3,860	XX	XX
Powder do.	129	1,890	142	2,840
Other do.	669	3,370	959	8,350
Wrought products and castings, includes bar, castings, foil, pipe, plate, profile, rod, sheet, strip, tube, wire, other do.	3,640	82,600	3,590	91,500
Ferrotitanium and ferrosilicon titanium do.	3,160	9,670	6,940	21,200
Pigment, dioxide and oxide do.	240,000	397,000	264,000	413,000
Titaniferous iron ore do.	18,900	1,390	68,700	3,650
Titaniferous slag do.	409,000	163,000	457,000	192,000
Tungsten, W content:				
Ammonium paratungstate do.	2,640	16,300	2,090	16,500
Ferrotungsten and ferrosilicon tungsten do.	377	2,380	392	3,510
Miscellaneous tungsten-bearing materials, metal powders, carbide powder, unwrought, waste and scrap, wrought, oxides, calcium tungstate, other tungstates, other compounds do.	4,600	64,100	5,750	92,400
Ores and concentrates do.	4,690	26,200	2,310	14,600
Vanadium:				
Aluminum-vanadium master alloy, gross weight kilograms	232,000	425	19,100	67
Ferrovandium, V content do.	1,690,000	14,300	3,740,000	62,100
Metal, including waste and scrap, gross weight do.	186,000	2,850	31,200	1,710
Miscellaneous chemicals, sulfates and vanadates, V content do.	72,900	902	197,000	1,170
Pentoxide, anhydride, V content do.	679,000 <sup>r</sup>	3,610	1,230,000	8,600
Vanadium-bearing ash, residues, slag from the manufacture of iron and steel, V <sub>2</sub> O <sub>5</sub> content do.	3,960,000	5,760	16,400,000	11,800
Other oxides and hydroxides, V content do.	74,300	769	133,000	1,650
Zinc:				
Compounds, lithopone, chloride, compounds n.s.p.f., hydrosulfite, oxide, sulfate oxide, sulfate metric tons	126,000	85,800	137,000	107,000
Ores and concentrates, Zn content do.	164,000	60,000	231,000	98,700
Rolled do.	1,790	5,500	2,500	9,250
Slab, refined do.	758,000 <sup>r</sup>	647,000	812,000	888,000
Zirconium and hafnium:				
Hafnium, unwrought, including powders do.	5	911	4	895
Zirconium:				
Ferrozirconium do.	154	245	165	318
Ores and concentrates do.	37,400	14,800	35,200	16,800
Oxide, includes germanium oxides and zirconium oxides do.	2,350	22,300	3,690	33,000

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004		
	Quantity	Value	Quantity	Value	
Metals—Continued:					
Zirconium and hafnium—Continued:					
Zirconium—Continued:					
Unwrought powder	metric tons	52	2,260	74	2,320
Waste and scrap	do.	491	42,200	722	45,600
Total		XX	45,000,000	XX	69,000,000
Industrial minerals:					
Abrasives, manufactured:					
Aluminum oxide, crude, ground and refined	metric tons	164,000	67,000	232,000	98,100
Metallic abrasives	do.	16,500	9,650	15,900	9,520
Silicon carbide, crude, ground and refined	do.	170,000	78,900	209,000	119,000
Asbestos:					
Chrysotile and other unspecified type	do.	4,650	5,840	3,450	806
Products with basis of asbestos, cellulose, or other minerals		NA	577,000	NA	616,000
Barite:					
Chemicals; chloride, oxide, hydroxide, peroxide, nitrate, precipitated carbonate	metric tons	18,300	16,000	18,200	14,600
Crude	do.	1,620,000	68,200	1,960,000	90,600
Ground	do.	174	15	5,100	700
Other sulfates	do.	32,800	17,300	33,800	17,800
Boron minerals and compounds:					
Borax		(2)	19	(2)	62
Boric acid		47	19,000	49	20,300
Colemanite		24	6,960	21	6,070
Ulexite		80	16,000	110	21,900
Bromine:					
Compounds, contained bromine	metric tons	7,900	49,500	7,580	30,100
Elemental	do.	1,920	1,450	2,650	2,000
Cement, hydraulic and clinker		24,000 <sup>r</sup>	940,000 <sup>r</sup>	27,300	1,140,000
Clays:					
China clay or kaolin	do.	224,000	34,700	205,000	38,600
Fire clay	do.	482	245	5,920	1,680
Decolorizing earths and fuller's earth	do.	2,590	28	227	48
Bentonite	do.	12,700	3,010	9,340	3,360
Common blue clay and other ball clay	do.	13,300	1,220	520	218
Other clay	do.	5,060	2,580	5,430	3,650
Chamotte or dina's earth	do.	3	5	2	2
Artificially activated clay and activated earth	do.	21,000	9,430	24,900	14,200
Diamond, industrial:					
Diamond stones, natural and miners'	thousand carats	1,820	5,640	1,780	13,800
Powder, dust and grit, natural and synthetic	do.	250,000	64,600	240,000	61,200
Diatomite	metric tons	1,710	675	1,710	488
Feldspar and nepheline syenite:					
Feldspar	do.	7,980	1,010	20,600	944
Nepheline syenite	do.	307,000	28,200	350,000	29,000
Fluorspar:					
Aluminum fluoride	do.	10,100	7,640	4,700	3,750
Cryolite	do.	8,120	6,120	3,860	3,660
Fluorspar	do.	567,000	76,300	599,000	95,300
Hydrofluoric acid, HF	do.	111,000	115,000	128,000	131,000
Garnet, industrial <sup>c</sup>		31	3,190	37	4,260
Gemstones		XX	13,600,000	XX	15,500,000
Graphite:					
Natural	metric tons	52,300	24,400	63,700	29,900
Electric furnace electrodes	do.	85,300	139,000	86,400	144,000

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
Industrial minerals—Continued:				
Gypsum:				
Crude	8,300	75,500	10,100	97,200
Plasters	6	3,040	5	3,420
Boards	484	59,600	617	87,100
Other	XX	45,800	XX	43,200
Iodine:				
Crude metric tons	5,750	68,300	5,700	75,300
Potassium iodide do.	863 <sup>r</sup>	9,760	892	11,500
Iron oxide pigments:				
Natural do.	4,000	2,150	4,100	2,100
Synthetic do.	136,000	94,500	166,000	114,000
Kyanite, andalusite, sillimanite do.	4,480	1,090	4,010	1,420
Lime	202	22,500	232	25,900
Lithium chemicals:				
Carbonate metric tons	11,600	18,000	15,400	26,500
Hydroxide do.	111	601	64	233
Magnesium compounds:				
Compounds, chlorides, hydroxide, peroxide, sulfates do.	112,000	35,700	132,000	40,600
Magnesite, crude and processed:				
Caustic-calcined magnesia do.	150,000	22,600	157,000	22,200
Dead-burned and fused magnesia do.	379,000	78,500	418,000	109,000
Other magnesia do.	21,000	10,300	15,700	10,800
Crude do.	14,300	1,740	15,900	1,980
Mica:				
Scrap and flake:				
Powder do.	20,600	10,600	22,300	10,800
Waste do.	14,300	3,360 <sup>r</sup>	20,100	4,410
Sheet:				
Unworked, excludes unworked sheet mica valued at less than \$1 per kilogram do.	134	350	124	358
Worked do.	1,000	11,100	1,280	11,800
Nitrogen, major compounds, gross weight <sup>3</sup>	15,800	2,920,000	16,000	3,580,000
Peat moss metric tons	767,000	148,000	786,000	159,000
Perlite, processed crude do.	245,000	9,310	238,000	9,660
Phosphate rock and phosphatic materials	2,680	176,000	2,690	178,000
Potash, chloride, sulfate, nitrate, sodium nitrate mixtures metric tons	7,810,000	646,000	8,140,000	763,000
Pumice:				
Crude or unmanufactured	366	32,800	401	31,400
Wholly or partially manufactured	1	3,460	1	3,660
Salt	12,900	196,000	11,900	159,000
Sand and gravel:				
Construction	4,410	57,700	4,760	56,900
Industrial	440	9,210	490	12,400
Silica, special stone products	NA	6,300	NA	6,800
Soda ash	5	1,510	6	1,880
Stone:				
Crushed, chips, calcium carbonate fines, excludes precipitated carbonates	15,300	143,000	16,000	149,000
Dimension	NA	1,390,000	NA	1,790,000
Strontium:				
Carbonate metric tons	38,200	18,200	23,600	8,430
Celestite do.	2,320	132 <sup>r</sup>	6,290	332
Metal do.	283	1,090	217	1,070
Nitrate do.	705	2,080	527	798
Oxide, hydroxide, peroxide do.	--	--	98	76

See footnotes at end of table.

TABLE 8—Continued  
U.S. IMPORTS FOR CONSUMPTION OF PRINCIPAL MINERALS AND PRODUCTS, EXCLUDING MINERAL FUELS<sup>1</sup>

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral or product	2003		2004	
	Quantity	Value	Quantity	Value
<b>Industrial minerals—Continued:</b>				
Sulfur:				
Elemental	2,870 <sup>e</sup>	70,600	2,850 <sup>e</sup>	76,800
Sulfuric acid, 100% H <sub>2</sub> SO <sub>4</sub> metric tons	908,000	39,200	2,400,000	104,000
Talc	237	53,500	226	58,400
Vermiculite <sup>c</sup>	37	6,200	69	10,000
Wollastonite <sup>c</sup>	3,500	525	4,500	563
Total	XX	22,500,000	XX	26,100,000
Grand total	XX	67,500,000	XX	95,100,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. NA Not available. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

<sup>3</sup>Category regrouped in 2004, see commodity chapter for details.



TABLE 9  
WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

						United States		
Mineral or product		World total				Percentage of world total		
		2000	2001	2002	2003	2004	2004	
Metals:								
Aluminum <sup>2</sup>		24,300	24,300	26,100 <sup>r</sup>	27,900 <sup>r</sup>	29,800	2,520	8.4
Antimony	metric tons	126,000	157,000	113,000	112,000 <sup>r</sup>	113,000	--	--
Arsenic trioxide <sup>3</sup>	do.	62,800 <sup>r</sup>	59,500 <sup>r</sup>	59,100 <sup>r</sup>	58,900 <sup>r</sup>	49,500	--	--
Bauxite <sup>3, 4, 5</sup>		136,000	137,000 <sup>r</sup>	144,000 <sup>r</sup>	155,000 <sup>r</sup>	159,000	NA	NA
Beryl <sup>3</sup>	metric tons	5,060 <sup>r</sup>	2,990 <sup>r</sup>	2,540 <sup>r</sup>	2,700 <sup>r</sup>	2,810	2,210	78.7
Bismuth, refinery	do.	4,230	5,050	6,330 <sup>r</sup>	8,540 <sup>r</sup>	7,980	--	--
Cadmium, refinery	do.	20,300 <sup>r</sup>	19,000 <sup>r</sup>	17,500 <sup>r</sup>	18,500 <sup>r</sup>	18,800	550	2.9
Chromite <sup>3</sup>		14,700 <sup>r</sup>	12,100	14,200	15,500	17,500	--	--
Cobalt, Co content:								
Mine	metric tons	37,900 <sup>r</sup>	47,900 <sup>r</sup>	50,700 <sup>r</sup>	48,700 <sup>r</sup>	52,400	--	--
Refinery	do.	36,000 <sup>r</sup>	39,600 <sup>r</sup>	41,700 <sup>r</sup>	43,800 <sup>r</sup>	49,100	--	--
Columbium (niobium)-tantalum concentrates <sup>3</sup>	do.	61,100	76,600	81,200 <sup>r</sup>	80,800 <sup>r</sup>	68,000	--	--
Copper:								
Mine		13,300 <sup>r</sup>	13,700	13,700 <sup>r</sup>	13,700 <sup>r</sup>	14,600	1,160	8.0
Refinery		14,900	15,600 <sup>r</sup>	15,400 <sup>r</sup>	15,200	15,800	1,310	8.3
Gold	kilograms	2,570,000 <sup>r</sup>	2,560,000 <sup>r</sup>	2,550,000 <sup>r</sup>	2,550,000 <sup>r</sup>	2,430,000	258,000	10.6
Iron ore <sup>3</sup>		1,080,000	1,040,000 <sup>r</sup>	1,090,000 <sup>r</sup>	1,190,000 <sup>r</sup>	1,340,000	54,700	4.1
Iron and steel:								
Direct-reduced iron <sup>2</sup>		42,400	39,300	43,600 <sup>r</sup>	45,200 <sup>r</sup>	48,100	180	0.4
Pig iron <sup>2</sup>		573,000	585,000	610,000 <sup>r</sup>	663,000 <sup>r</sup>	712,000	42,300	5.9
Raw steel		850,000	853,000 <sup>r</sup>	906,000	972,000 <sup>r</sup>	1,050,000	100,000	9.5
Lead:								
Mine	metric tons	3,170,000	3,120,000 <sup>r</sup>	2,870,000 <sup>r</sup>	3,140,000 <sup>r</sup>	3,110,000	445,000	14.3
Refinery	do.	6,650,000 <sup>r</sup>	6,570,000 <sup>r</sup>	6,630,000	6,800,000 <sup>r</sup>	6,740,000	1,260,000	18.7
Magnesium <sup>5</sup>	do.	422,000 <sup>r</sup>	428,000 <sup>r</sup>	452,000 <sup>r</sup>	496,000 <sup>r</sup>	584,000	W	NA
Manganese ore <sup>3</sup>		19,600	20,900 <sup>r</sup>	22,200	24,100 <sup>r</sup>	26,300	--	--
Mercury <sup>5</sup>	metric tons	1,360	1,500	1,490 <sup>r</sup>	1,410 <sup>r</sup>	1,260	NA	NA
Molybdenum, Mo content	do.	135,000 <sup>r</sup>	132,000 <sup>r</sup>	121,000	130,000 <sup>r</sup>	141,000	41,500	29.5
Nickel, Ni content:								
Mine	do.	1,290,000	1,340,000 <sup>r</sup>	3,150,000 <sup>r</sup>	1,390,000 <sup>r</sup>	1,390,000	--	--
Refinery	do.	1,120,000	1,170,000 <sup>r</sup>	1,180,000 <sup>r</sup>	1,220,000 <sup>r</sup>	1,260,000	--	--
Platinum-group metals	kilograms	364,000	395,000	414,000	452,000 <sup>r</sup>	467,000	17,700	3.8
Selenium <sup>2, 5</sup>	do.	1,460,000	1,460,000	1,410,000 <sup>r</sup>	1,470,000 <sup>r</sup>	1,330,000	W	NA
Silver	metric tons	18,100 <sup>r</sup>	18,900 <sup>r</sup>	18,500 <sup>r</sup>	18,400 <sup>r</sup>	19,700	1,250	6.3
Tellurium <sup>2, 5</sup>	kilograms	111,000	109,000	89,000 <sup>r</sup>	95,000 <sup>r</sup>	95,000	W	NA
Tin:								
Mine	metric tons	278,000 <sup>r</sup>	249,000 <sup>r</sup>	238,000 <sup>r</sup>	263,000 <sup>r</sup>	262,000	--	--
Smelter <sup>6</sup>	do.	288,000	288,000 <sup>r</sup>	280,000	280,000 <sup>r</sup>	309,000	4,850	1.6
Tungsten, W content	do.	44,000	48,900 <sup>r</sup>	64,200 <sup>r</sup>	66,700 <sup>r</sup>	73,700	--	--
Zinc:								
Mine	do.	8,770,000	8,910,000	8,520,000 <sup>r</sup>	9,600,000 <sup>r</sup>	9,600,000	739,000	7.7
Smelter		9,020 <sup>r</sup>	9,270 <sup>r</sup>	9,690 <sup>r</sup>	9,860 <sup>r</sup>	10,000	305	3.0
Industrial minerals:								
Asbestos	metric tons	2,110,000	2,080,000 <sup>r</sup>	2,050,000	2,230,000 <sup>r</sup>	2,230,000	--	--
Barite	do.	6,560,000 <sup>r</sup>	6,740,000 <sup>r</sup>	6,440,000 <sup>r</sup>	6,650,000 <sup>r</sup>	7,240,000	532,000 <sup>7</sup>	7.3
Boron minerals	do.	4,550,000	4,730,000	4,560,000 <sup>r</sup>	4,750,000 <sup>r</sup>	4,410,000	1,210,000 <sup>7</sup>	27.4
Bromine	thousand kilograms	542,000	523,000	540,000	548,000	556,000	222,000 <sup>7</sup>	40.0
Celesite	metric tons	396,000 <sup>r</sup>	398,000 <sup>r</sup>	435,000 <sup>r</sup>	471,000 <sup>r</sup>	551,000	--	--
Cement, hydraulic		1,660,000	1,750,000 <sup>r</sup>	1,850,000 <sup>r</sup>	2,020,000 <sup>r</sup>	2,130,000	99,000 <sup>8</sup>	4.6
Clays:								
Bentonite		10,300	10,400	10,300	10,300 <sup>r</sup>	10,500	4,060	38.7
Fuller's earth	metric tons	4,470,000 <sup>r</sup>	4,600,000 <sup>r</sup>	4,520,000 <sup>r</sup>	5,390,000 <sup>r</sup>	5,060,000	3,260,000	64.4
Kaolin		44,700 <sup>r</sup>	45,100 <sup>r</sup>	43,300 <sup>r</sup>	44,400 <sup>r</sup>	44,400	7,760	17.5

See footnotes at end of table.

TABLE 9—Continued  
WORLD AND U.S. PRODUCTION OF SELECTED NONFUEL MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

							United States	
Mineral or product		World total					Percentage	
		2000	2001	2002	2003	2004	2004	of world total
Industrial minerals—Continued:								
Diamond, natural	thousand carats	122,000 <sup>r</sup>	127,000 <sup>r</sup>	140,000 <sup>r</sup>	159,000 <sup>r</sup>	156,000	--	
Diatomite	metric tons	1,970,000 <sup>r</sup>	1,950,000 <sup>r</sup>	1,880,000 <sup>r</sup>	1,910,000 <sup>r</sup>	1,930,000	620,000 <sup>7</sup>	32.1
Feldspar		9,540	10,400	10,800 <sup>r</sup>	11,200 <sup>r</sup>	11,100	770	6.9
Fluorspar	metric tons	4,450,000 <sup>r</sup>	4,590,000 <sup>r</sup>	4,440,000 <sup>r</sup>	4,860,000 <sup>r</sup>	5,060,000	--	--
Graphite, natural	do.	846,000	803,000	929,000 <sup>r</sup>	974,000 <sup>r</sup>	982,000	--	--
Gypsum		108,000 <sup>r</sup>	105,000 <sup>r</sup>	104,000 <sup>r</sup>	107,000 <sup>r</sup>	111,000	17,200	15.5
Iodine, crude	thousand kilograms	19,500	20,700	21,000	24,600 <sup>r</sup>	24,700	1,130	4.6
Lime		121,000 <sup>r</sup>	121,000 <sup>r</sup>	119,000 <sup>r</sup>	124,000 <sup>r</sup>	126,000	20,000 <sup>7, 8</sup>	16.0
Magnesite, crude <sup>5</sup>		12,700	11,100	13,600 <sup>r</sup>	14,000 <sup>r</sup>	14,500	W	NA
Mica, including scrap and flake <sup>9</sup>	metric tons	328,000 <sup>r</sup>	368,000 <sup>r</sup>	269,000 <sup>r</sup>	267,000 <sup>r</sup>	288,000	99,200	34.5
Nitrogen, N content of ammonia		108,000	105,000	109,000 <sup>r</sup>	110,000 <sup>r</sup>	117,000	8,850 <sup>10</sup>	7.6
Peat		24,700	25,700	28,500 <sup>r</sup>	26,000 <sup>r</sup>	27,600	696	2.5
Perlite	metric tons	1,940,000 <sup>r</sup>	1,730,000 <sup>r</sup>	1,820,000 <sup>r</sup>	1,880,000 <sup>r</sup>	1,950,000	508,000 <sup>7</sup>	26.1
Phosphate rock <sup>3</sup>		132,000	126,000	135,000	137,000	141,000	35,800	25.4
Potash, K <sub>2</sub> O equivalent		27,000	26,400 <sup>r</sup>	26,600 <sup>r</sup>	28,400 <sup>r</sup>	28,900	1,300	4.5
Pumice		13,700	14,400 <sup>r</sup>	15,100 <sup>r</sup>	15,600 <sup>r</sup>	16,100	1,491 <sup>7</sup>	9.3
Salt		195,000 <sup>r</sup>	199,000 <sup>r</sup>	195,000 <sup>r</sup>	199,000 <sup>r</sup>	208,000	46,500 <sup>8</sup>	22.3
Sand and gravel, industrial, silica		114,000 <sup>r</sup>	114,000 <sup>r</sup>	113,000 <sup>r</sup>	113,000 <sup>r</sup>	115,000	29,700 <sup>7</sup>	25.8
Soda ash, natural and manufactured		34,300 <sup>r</sup>	35,500 <sup>r</sup>	36,800 <sup>r</sup>	38,000 <sup>r</sup>	40,300	11,000 <sup>11</sup>	27.2
Sulfur, all forms		59,300 <sup>r</sup>	59,500 <sup>r</sup>	60,600 <sup>r</sup>	61,900 <sup>r</sup>	64,100	10,110	15.8
Talc and pyrophyllite <sup>12</sup>	metric tons	8,730,000 <sup>r</sup>	9,060,000 <sup>r</sup>	7,810,000 <sup>r</sup>	8,320,000 <sup>r</sup>	8,320,000	857,000	10.3
Titanium concentrates: <sup>3</sup>								
Ilmenite and leucoxene	do.	4,940,000 <sup>r</sup>	5,110,000 <sup>r</sup>	5,420,000 <sup>r</sup>	5,690,000 <sup>r</sup>	5,640,000	500,000 <sup>13</sup>	8.9
Rutile <sup>5</sup>	do.	409,000 <sup>r</sup>	421,000 <sup>r</sup>	446,000 <sup>r</sup>	361,000 <sup>r</sup>	353,000	(14)	NA
Vermiculite	do.	521,000 <sup>r</sup>	431,000 <sup>r</sup>	498,000 <sup>r</sup>	491,000 <sup>r</sup>	510,000	100,000	19.6

<sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in "World" total. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Primary.

<sup>3</sup>Gross weight.

<sup>4</sup>Individual country figures that are included in the world total represent dried bauxite equivalent of crude ore, but for some countries available data are insufficient to permit this adjustment.

<sup>5</sup>"World total" for years listed does not include U.S. production.

<sup>6</sup>Includes tin content of alloys made directly from ore.

<sup>7</sup>Quantity sold or used by producers.

<sup>8</sup>Includes Puerto Rico.

<sup>9</sup>Excludes, if any, U.S. production of low-quality sericite and sheet mica.

<sup>10</sup>Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.

<sup>11</sup>U.S. production is natural only.

<sup>12</sup>Data for the United States exclude proprietary pyrophyllite production.

<sup>13</sup>Includes rutile to avoid disclosing company proprietary data. Rounded to one significant digit.

<sup>14</sup>Included with ilmenite to avoid disclosing company proprietary data; not included in "Total."